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Trends

Motor Fuels Only Product To Show Big Export Losses

WITH trends in total crude-oil production largely determined by the Texas holiday shutdowns and domestic and export markets marking time, the industry this week found its demand data of particular interest. The Bureau of Mines' monthly report, released Monday, gave domestic data which will be representative of the entire year and also revealed developments for the first 60 days of the war so far as they affect exports from this country.

CRUDE PRODUCTION *3,829,590 bbl. daily average—up 532,079 bbl. One year ago 3,243,083 bbl.*

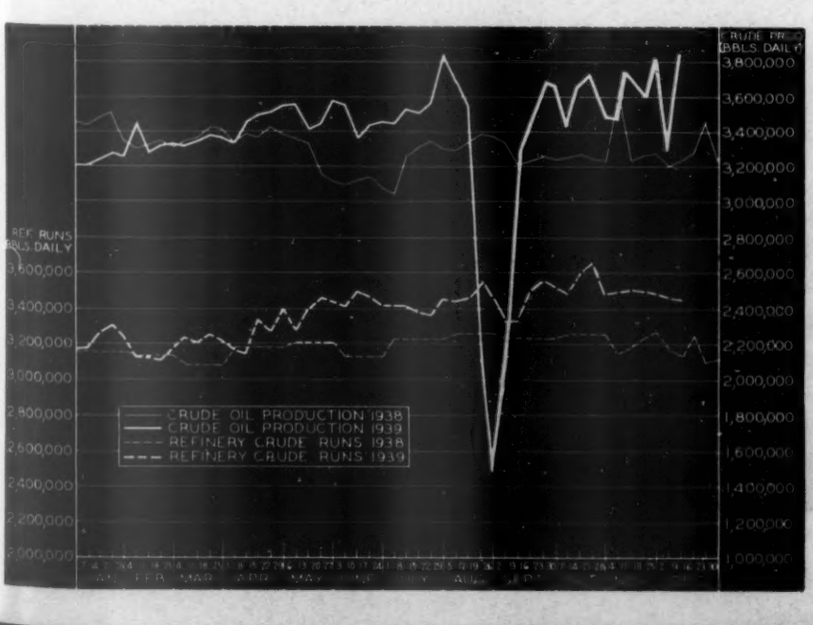
CRUDE STOCKS *234,161,000 bbl. as of December 2—up 2,350,000 bbl. One year ago 271,065,000 bbl.*

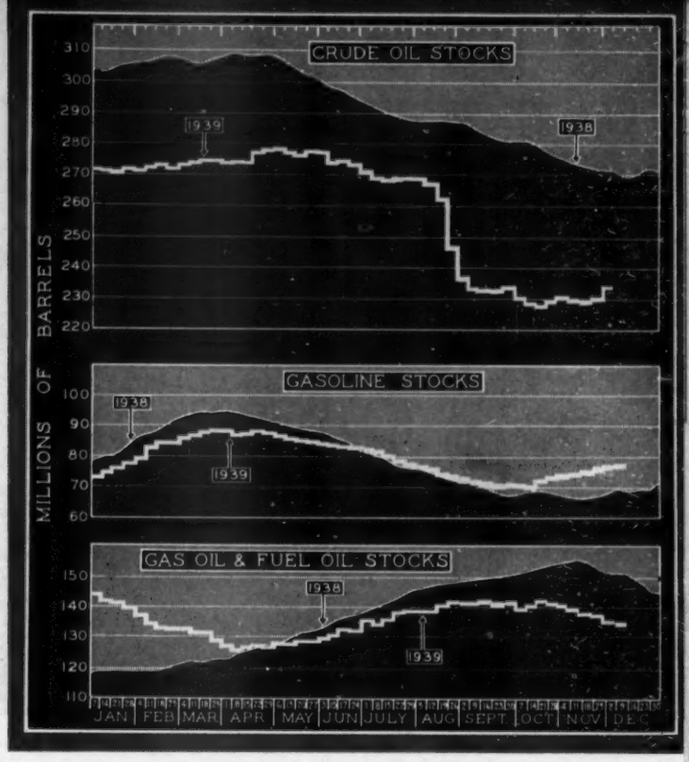
GASOLINE STOCKS *77,196,000 bbl. as of December 9—up 831,000 bbl. One year ago 70,158,000 bbl.*

GAS AND FUEL-OIL STOCKS *134,574,000 bbl. as of December 9—down 1,388,000 bbl. One year ago 150,779,000 bbl.*

REFINERY RUNS *3,460,000 bbl. daily week ended December 9—down 20,000 bbl. One year ago 3,160,000 bbl.*

The industry in the United States has not suffered losses in its total shipments to foreign customers as a result of the war. Exports of crude oil and refined products in October and September totaled 34,474,000 bbl. which is practically the same as the shipments in August and July, and 10 per cent greater than the export shipments of October-September 1938. Gasoline is the only product to show a decrease in export movement as a result of the war. The October exports were 22 per cent less than in August and 24 per cent under October 1938. In contrast export shipments of kerosene and lubricating oils greatly increased the first 60 days of the war. October kerosene exports were double what they were in September and 85 per cent larger than in October last year. The domestic use of kerosene for light and fuel has greatly increased due to blackouts of cities in war areas.





The increase in domestic consumption of gasoline far exceeds any loss in exports so that the recent weakness in gasoline quotations cannot be accounted for by lack of total demand. Domestic shipments in October were 7 per cent over October 1938, and the accumulative total for the 10 months was nearly 6 per cent over the same period last year. The domestic and total demands for all finished products, based on government reports, are running ahead of last year, with gains ranging up to 14 per cent in the case of gas oils and distillate fuels.

DAILY AVERAGE PRODUCTION FOR WEEK

	Dec. 9, 1939	Bur. Mines Dec. est. of demand	Dec. state allowables	Dec. 2, 1939
Oklahoma City	109,150	.....	.....	89,950
Seminole fields	36,275	.....	.....	39,600
Remainder of state	286,400	.....	.....	293,950
Total Oklahoma	431,825	437,600	437,600	423,500
East Texas	494,997	.....	.....	299,005
West Texas	268,547	.....	.....	184,947
North Central Texas	130,486	.....	.....	98,786
Texas Panhandle	81,357	.....	.....	61,158
East Central Texas	98,473	.....	.....	79,356
Gulf Coast Texas	392,861	.....	.....	274,088
Southwest Texas	102,050	.....	.....	63,099
Total Texas	1,568,771	1,438,100	1,415,843	1,060,439
North Louisiana	69,450	.....	.....	69,645
Gulf Coast Louisiana	204,447	.....	.....	202,548
Total Louisiana	273,897	255,200	255,200	272,193
California	618,250	594,500	599,000	592,250
Kansas	161,550	168,000	170,600	177,250
Arkansas	68,910	56,100	69,442	70,235
Eastern fields	103,420	104,600	.....	102,200
Illinois	337,026	315,200	.....	332,245
Michigan	64,961	61,000	.....	65,149
New Mexico	112,950	110,000	110,000	113,070
Rocky Mountain area	88,030	79,400	.....	88,980
Total United States	3,829,590	3,619,700	.....	3,297,511

Market students point out that these data reveal one of the most favorable consumption trends that the industry ever has known. Their general conclusion is that responsibility for any troubles of the industry are due to oversupply and not a disappointing demand.

The increase in crude-oil production last week of 532,079 bbl. daily and the decline of 518,234 bbl. daily the previous week reflect the application of 11 shutdown days in Texas this month. Opposition to this method of operation is widening in favor of a uniform daily allowable throughout the month. It is claimed that the shutdowns result in waste and add greatly to the costs of many operators. A change will be requested of the Texas Railroad Commission Friday.

Recently completed Houdry unit from which is produced 80-octane unleaded gasoline as a regular fuel

The recent completion of large catalytic cracking and alkylation units throughout many refining centers has speeded up the octane race among marketers. The relative positions of the contestants are being rendered less distinct by the adoption on the part of some of them of a new laboratory test for determining octane values which seem to favor synthesized gasolines

End of Motor Fuel Octane Race Not in Sight

By W. T. ZIEGENHAIN

REFINERS and marketers are witnessing a parade of events, each of which seems to foretell a continued and substantial advance in the average octane value of gasoline. They do not welcome this movement because it means added costs, but in this competitive business world each says he is helpless to do much about it.

However, these views present but one side of the economic picture and come overwhelmingly from those who have a manufacturer's viewpoint. While it is generally accepted that higher-octane motor fuels will cost more to manufacture, there is a sharp division of opinions in regard to the relative values of the two fuels to the consumer as sources of power.

Probably the most recent direct statement to be made on the subject was that of Dr. Graham Edgar, of the Ethyl Gasoline Corp., who stated: "The average increase in fuel economy is about 45 per cent in going from 5.25 to 1 compression ratio in the car motor to one of 8.0 to 1." He continued: "If we take the average retail price of gasoline as 19 cents per gallon, the driver of the 8.0 to 1 car could have paid 27.5 cents per gallon at no increase in cost per mile. This would give the refiner a margin of 8.5 cents per gallon above his regular cost of 5 cents with which to produce the 95-octane gasoline required by this higher-compression car." From this it appears that the refining industry may expect to supply motor fuels of much higher-octane value. Just how fast the rise will come, no one knows.

A more detailed comparison of values among cars of various compression ratios is included here in a graph.

A most potent factor which is tending to cause a rapid acceleration in raising the average octane value of motor fuels is the Socony-Vacuum Oil Co.'s and Sun Oil Co.'s completion of large Houdry catalytic cracking units at their plants scattered throughout the East and Middle West from which they will be marketing house-brand gasolines of unusually high-octane value. And if marketing practices in Ohio are samples of what is to follow throughout the country, the refining industry is due for several major adjustments. Throughout Ohio most major marketing companies have prepared or are preparing to sell 80-octane gasoline as their house-brand or regular-grade fuel. Their Ethyl Gasoline will be at least 87-octane number. They are using the new "1939 Research" method for testing. Here it might be well to point out that Chicago appears to have been picked as the next major marketing area in which to stage another "octane race." Then it will likely spread throughout the Mississippi Valley marketing territory and then westward to the Rockies. California is witnessing conditions similar to those on the East Coast. As a result of that state's activities in supplying and anticipating large demands for 90 to 100-octane aviation fuels, it appears to be equipped to handle all current demands for this material.

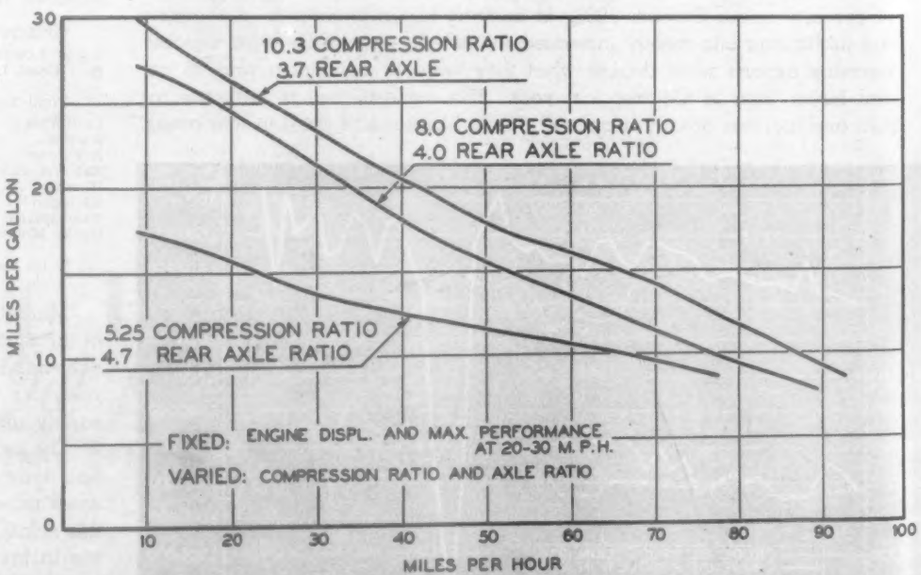


Chart showing relationship in power output of three motors having different compression ratios, namely 5.25 to 1, 8 to 1 and 10.3 to 1. From these data the conclusion has been drawn that at 40 m.p.h. the car equipped with the 8-to-1 compression ratio is 45 per cent more economical on fuel than the one of 5.25-to-1 ratio

TYPICAL DISAGREEMENT IN RESULTS OF ANTIKNOCK TESTS

Table showing lack of agreement in results among three laboratory test methods commonly used to determine the octane values. Here are shown three octane values for each of six samples of gasoline sold in Chicago by marketers handling more than 70 per cent of that city's needs

Gasolines tested—	Tetraethyl lead content cc. per gal.	Laboratory methods used in making test: A.S.T.M. motor	Ethyl L-3	1939 research
Sample No. 1	.65	72.4	74.4	77.3
Sample No. 2	.31	71.6	73.6	77.5
Sample No. 3	.75	72.4	74.5	77.0
Sample No. 4	1.06	72.9	75.0	76.6
Sample No. 5	.73	72.4	73.8	76.2
Sample No. 6	None	70.4	73.1	77.1
Average	.70	72.02	74.06	76.95

To show the extent of this production a quotation is taken from a statement recently made by Earle W. Gard, of the Union Oil Co., in which he said:

"It is estimated that the present yearly local demand for aviation gasoline with a knock rating in excess of 86 (A.S.T.M.) equals about 400,000 bbl. Therefore, it appears that the potential annual production of aviation gasoline by the alkylation process is from four to seven times the present annual demand for such fuel."

Knowing that substantial additions to cracking, polymerization and alkylation capacities are being made throughout the country generally and coupling this fact with the knowledge that the output of 90 to 100-octane fuels has not only kept pace with needs but promises to exceed the current demands, it seems logical that any excess production will be blended with the regular motor-fuel production to raise the latter's octane rating.

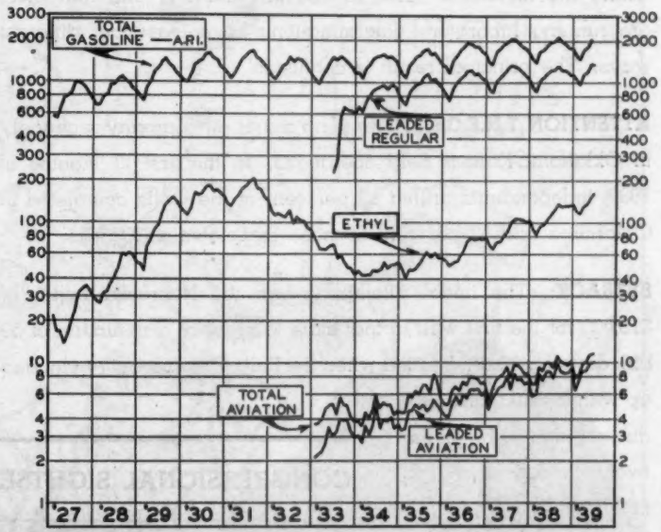
In the period in which this is going on, those refiners who are not equipped with polymerization units or alkylation units, will probably resort to the use of more tetraethyl lead.

Aviation a Factor

A factor which has been exerting a strong influence upon the technological justification for making abnormally high-octane motor fuels, has been the development of abnormally high-compression motors for use in airplanes, particularly warcraft. Modern fighting planes are being equipped with 10 to 1 compression-ratio motors which require 100-octane gasoline. At first, this practice was considered something separate and distinct from the duties, economies and needs of the modern automobile engine. However, this reasoning has been changed lately.

It has been proved that the cost of manufacturing 100-octane gasoline can be greatly reduced, that several methods of manufacture are readily available from which the refiner may choose to best fit his particular needs, and, when utilizing volume-production, the cost per gallon is not prohibitive when viewed from the standpoint of potential consumer benefits. The fact remains, however, that the only need for such fuels comes from the aviation industry, and the ordinary motorist has no need for it because there are no cars built which demand this super-fuel. Therefore, up to this time, 100-octane gasoline has been considered an aviation fuel, and rightfully so, but 100-octane passenger-car fuel could be made a general reality if it is proved economically sound. And, if the motorist, the car manufacturer, the oil marketer and the refiner accept the experiences gained in the field of aviation as a pattern for predicting future developments in the passenger-car field, they will be preparing to see 90 to 100-octane motor fuel made and sold through the ordinary filling stations for delivery into cars of say 5 years hence.

Another factor on the subject tending to confuse the gasoline buyer has been the liberal use of large filling-station signs calling attention to the use of ethyl fluid in the second and third-grade gasolines. A typical sign will include the statement "Contains tetraethyl lead." In many cases these signs have been designed to generate the impression that the station offer Ethyl Gasoline at a second or third-grade price.



Right: Curve showing trend of monthly consumption of gasoline in the United States broken up to reveal the proportion of leaded and non-leaded fuels. Data in millions of gallons. Note the rise in consumption of all three grades of leaded gasoline following sharp falling-off in consumption of Ethyl Gasoline during 1932 and 1933. Below is a general view of the Ethyl Gasoline Corp. fluid manufacturing plant at Baton Rouge, La., where five basic chemicals are converted into tetraethyl lead. Tanks of the Standard Oil Co. of Louisiana refinery may be seen in the background of the picture

Still another gallonage-getter has been the posting of signs calling attention to the sale of 80 or better octane gasoline when tested by a relatively new method, whereas, if that same gasoline is tested in the laboratory by one of the older and better-known methods, it would be rated as 73 or 76 octane. At present, anyone of three methods of testing may be used, and each gives a different result. It is not intended here to infer there is anything wrong in this procedure for, as a matter of fact, the new method of test, more specifically known as the 1939 Research Method, enjoys the same support among certain refiners as the A.S.T.M. Motor Method or the Ethyl Gasoline's L-3 method enjoys among others. All are similar in general procedure and purpose but differ sufficiently in some detail to yield different results. Each test is said to favor one or another kind of gasoline. For example, the new 1939 Research Method produces relatively high results when testing motor fuels which contain a large proportion of cracked gasoline. A typical 100 per cent cracked fuel will usually show up better on the 1939 Research test by from 4 to 7-octane numbers compared with those when using the A.S.T.M. Motor Method. Furthermore, all that is essentially

(Continued on Page 32)

SPARKS . . . FROM THE NEWS

PICKETS PICKETED: A. F. of L. pickets have been picketing C.I.O. pickets at Wilmington, Calif., refinery. Interference with the plant's receipts and deliveries is the net result.

PLOTTING HOLIDAYS: The curve of national crude-oil production is largely a matter of plotting Texas shutdown holiday periods. Last week the Lone Star's daily crude output jumped 508,332 bbl. following a decline of 492,190 bbl. the previous week.

CONFUSION: Because there is no single approved method for taking the antiknock value of gasoline, refiners and marketers are running laboratory determinations in at least four different ways. The principal result is confusion.

ATTENTION T.N.E.C.: There is no major oil company monopoly in Oklahoma-Kansas field operations. In the first 11 months of 1939, independents drilled 83 per cent of the wells completed in Oklahoma and 62 per cent of those completed in Kansas.

SETBACK: The initial attempt to win the Nebraska bonus of $15,000 for the first well in that state to produce a minimum of 50 bbl. daily for 60 days failed when the Falls City discovery clogged up with paraffin and produced only 35 bbl. on the twentieth day of the official test.

FADING: Two of Oklahoma's highly touted wildcats lost some of their promise the last week, when brine intruded in the deep pay zones to dim prospects for production.

INDUSTRY'S LOSS: In the sudden death Tuesday of Congressman Mapes of the Cole committee, the oil industry lost an understanding investigator who made a sincere effort to analyze its problems.

ORIGIN: Tax experts say that if people curb their demands for expenditures, federal, state and local, taxes might be cut more easily. They have something there.

UNCERTAIN FUTURE: Mexican oil expropriations now become basis for diplomatic action as legal recourse in Mexico is exhausted, but beyond admitting study of the case, State Department has not indicated what it may do or when.

POLITICAL VIEW: Fuel-oil price warning is issued by Chairman Bland, of House merchant marine committee, on ground that high-priced bunker fuel is contrary to national interest. The neutrality law which has restricted shipping facilities is responsible.

MORE ARGUMENT: Madison case reargument by the Supreme Court when a ninth justice is seated is asked by Department of Justice, saying it is left uncertain by the court's 4-to-4 deadlock over Judge Stone's dismissal of indictments after conviction.

NO SALE: It may be a long time before sales of oil and gas leases and royalties are permitted in Iowa, that state's Securities Department having rules that such sales would not be authorized until the existence of oil and gas in Iowa is proven. Protestants claim this is another case of an agricultural state getting the cart ahead of the horse.

NO CHEERS: The natural-gasoline market is giving a spectacular exhibition of high diving, with applause impressively absent.

HOPES RISE: The arrival of a large British tanker convoy last week has increased hopes among exporters that the Allies will shortly be able to resume the normal movement of products.

CONGRESSIONAL SIGHTSEERS IN ILLINOIS FIELDS . . .

Congressional subcommittee on oil legislation make a 2-day bus tour of Illinois' larger oil fields last week. The party included E. B. Swanson, assistant director of petroleum conservation, Department of the Interior; A. H. Perley, legislative counsel; Rep. William P. Cole, Jr.; E. J. Layton, clerk; Rep. Edward A. Kelly, and Rep. Carl E. Mapes

Cole Hearing Postponed Until Congress Meets

By NEIL WILLIAMS

NEW ORLEANS, La., Dec. 12.—The sudden death of Rep. Carl E. Mapes of Michigan at 7 o'clock this morning caused the indefinite adjournment of the hearings of the Cole subcommittee of which he was a member. Mr. Mapes was stricken in his hotel room, and when Chairman Cole was notified he said the members of the committee would proceed to Grand Rapids, Mich., the home of Mr. Mapes, to attend the funeral.

The chairman also announced that no further hearings of the committee would be held until after Congress reassembles.

That federal control or regulation of the oil industry not only is unnecessary, but would be an unwarranted encroachment upon the sovereign rights of the individual oil-producing states, was the conclusion drawn from the testimony of representatives of governors and oil regulatory agencies of the oil-producing states at the committee's hearing on Monday.

Members of the subcommittee sitting in the hearing were: William P. Cole, Jr., Maryland, chairman; Edward A. Kelly, Illinois; Carl E. Mapes, Michigan, and Charles A. Wolverton, New Jersey. Herron Pearson, Tennessee, the other member, was not present. They came to New Orleans following a 2-day tour of the Illinois fields, and following the New Orleans hearing were to visit a number of fields of North Louisiana, Arkansas and Texas, but this, of course, has been canceled.

Passage of the Cole bill would be an opening wedge for the federal Government to gain increasing domination over the oil industry, and would be a step in the creation of a totalitarian state centralized in Washington, the investigating committee was told.

Warning was issued that so far as Texas is concerned the bill would provide an "unconstitutional exercise of police power within the state," and that it would be fought in every court room from the bottom to the top.

Col. E. O. Thompson, member of the Texas Railroad Commission, oil regulatory body in that state, and chairman of the Interstate Oil Compact Commission, was the first to be heard. His prepared report on oil regulation in Texas, an expression of the Railroad Commission, and questioning of him by members of the committee, consumed the greater part of the opening day. He was followed by Jerry Sadler, junior member of the Texas Railroad Commission, whose testimony concluded the day's investigation, which was devoted solely to Texas.

"A crackerjack job has been done in control of production and conservation of reserves in Texas," Colonel Thompson stated. "No federal help is needed or interference from outside sources wanted," he emphasized.

Both Messrs. Thompson and Sadler were questioned closely by members of the committee regarding oil conditions in the state at the time of the August shutdown, the reasons for the shutdown, and if the shutdown were not for the purpose of raising prices. Colonel Thompson explained that the cut in prices which preceded the shutdown was only a reflection of a condition of too much production and that the shutdown was to bring the supply within market demand and prevent waste. He pointed out that under Texas law the production of oil in excess of market demand constituted waste.

Members of the committee sought to get Colonel Thompson to admit that limitation of production amounted to a price-fixing proposition and that

IF THE COLE BILL PASSES . . .

Drawn exclusively for The Oil and Gas Journal.

Cole committee interrogates Col. E. O. Thompson (standing) at New Orleans hearing on Monday. Seated at the table are Edward A. Kelly, Illinois; William P. Cole, Jr., Maryland; Carl E. Mapes, Michigan, and Charles A. Wolverton, New Jersey. Mr. Mapes died suddenly on Tuesday

present state-enforced conservation, stripped of its idealism, would be revealed as a stabilization measure. It was suggested that under present state proration and conservation practices, and attempts to limit production, no consideration is given to consumers, who might be able to use more oil if lower prices could be obtained.

Answering this line of questioning, Colonel Thompson denied that price entered into Texas production control, or that no consideration had been given the consumer. He explained that the price of gasoline and that of crude seemed to have had little relation, and that if, by increased production, crude prices were cut, the consumer under that situation might not benefit. He pointed out that the price of gasoline was much higher before the days of conservation than it is now, despite the higher taxes now. He also pointed out that other interests than the consumer's also had to be taken into consideration. Lower crude prices resulting from increased production, he said, would result in premature abandonment of many wells in the state, causing great loss.

In connection with the order for the 15-day shutdown, Colonel Thompson explained the Railroad Commission had observed the growing production for some time and had attempted to correct the mounting stock situation long before the shutdown. He pointed to the fact that a shutdown was not new and that for 2 years production had been shut down for 2 days a week.

Both Colonel Thompson and Mr. Sadler were asked frequently what objection could be raised over the Cole bill and to point out any specific provisions that would work against or interfere with present conservation work of the states. Members of the committee stated the purpose of the bill was not to interfere with the states in their present proration programs, but rather to assist and cooperate with them.

"In case of a difference of opinion between the federal and state authorities under provisions of the Cole bill, which would prevail?" Colonel Thompson countered.

"The federal Government would prevail," the committee questioner answered.

"Then the state regulations might as well be thrown out the window," Colonel Thompson replied. "I think the Cole bill is an entering wedge, like the Interstate Commerce Commission, which started to do a little regulating and now tries to regulate it all."

Considerable discussion was raised over the Bureau of Mines estimates of market demand. Both Colonel Thompson and Mr. Sadler praised the work being done by the bureau in its estimates and that Texas will continue to keep production within these estimates.

They then were asked if the Bureau of Mines estimates were not a form of federal Government regulation and if they approved of this why they would object to other federal regulations.

The Texas representatives explained this was not federal regulation in that there was no attempt by the bureau to force the states to hold production to the bureau estimates. The bureau, Colonel Thompson replied, is purely a fact-finding agency and the states can still do as they please.

In connection with the Illinois situation, Colonel Thompson was asked if it was not advisable to have federal control so that Illinois production could be regulated to prevent Illinois from depriving other states with oil control of their business, and to help them.

"Let Illinois take care of its own affairs. I am sure the situation will work out," Colonel Thompson replied. "Illinois is a new field, and it requires time to solve these problems." He thought the state could do it better than the federal Government.

Questioned as to well spacing and its relation to conservation, Colonel Thompson expressed the opinion that spacing had nothing to do with conservation. Limiting of spacing is purely an economic matter, he said. Close spacing gets more oil, but the industry wants as much oil as possible for as little cost as possible. If the financial phase of drilling were eliminated entirely, he added, he would advocate the drilling of as many wells as possible.

Colonel Thompson advanced the proposal that if the federal Government wants further conservation of oil and additional oil for national defense, as one of the purposes of the Cole bill is explained, Congress should make appropriation to buy the reserves outright and hold them, rather than attempt to dictate to the individual states control of production.

Mr. Sadler injected considerable humor into his comments that kept those at the hearing, as well as the members of the committee, in a constant happy frame of mind. He was asked how he and Colonel Thompson differed on the Cole-bill matter. Replying solemnly, he replied: "I can't see that we differ at all; we're both ag'in it."

Mr. Sadler especially criticized Mr. Ickes and said he thought Mr. Ickes spent too much time over at the White House for the good of the oil industry. He condemned the series of radio programs the Department of Interior had been making picturing the alleged chaotic condition of the petroleum industry and branded this as propaganda below the dignity of the department.

In his remarks, he said:

"By no means does Texas intend to turn over, lock, stock, and barrel, its rights of sovereignty to the federal Government. Any legislative measure that gives the Government control of private business, such as the Cole bill makes for the oil industry, strikes at the bulwark of our democratic Constitution."

Representative Mapes was born December 26, 1874. He was a lawyer and a Republican; elected to Congress in 1912 and reelected since, this being his fourteenth session. He was a member of the Cole subcommittee which investigated the oil industry in 1934, and was considered one of the most valuable members of the committee.

San Joaquin Association Opposes Cole Bill

LOS ANGELES, Calif., Dec. 11.—The San Joaquin Valley Oil Producers Association of California believes that in order to maintain the present form of government and world leadership of the United States it is necessary to continue its system of free initiative and enterprise, and since the American petroleum industry has grown to be the second largest industry in the United States without any form of governmental help, financial or otherwise, the association declares its opposition to the enactment of the Cole bill.

Most Complete Reports Ever Published . . .

Covering producing and refinery operations outside the United States will be an outstanding feature of the INTERNATIONAL NUMBER of The Oil and Gas Journal, December 28.

The detailed production information by fields will include number of wells, daily average production, wells drilling, producing depths, properties of crude, age of fields, and outlets. The reports, covering refineries in all parts of the world, will give plant and personnel data.

Los Informes Mas Completos de Todos los Publicados . . .

Relativos a la producción y refinería afuera de Los Estados Unidos seran el rasgo principal del NUMERO INTERNACIONAL de la revista The Oil and Gas Journal del 28 de deciembre.

La detallada información de producción por campos incluira número de pozos, producción diaria promedia, perforación de pozos, profundidades, propiedades del crudo, edad de los campos, y distribucion. Los informes de refinería en todos partes del mundo comprenderan dataos sobre equipo y personal.

Cole Hopes Illinois Will Shortly Pass a Conservation Law

Rep. Carl E. Mapes, whose sudden death caused the indefinite adjournment of the Cole subcommittee hearings at New Orleans, is shown here during his visit to Illinois, with Carl Harrington, Carter Oil Co. engineer, on his right, and Rep. Edward A. Kelly, of Illinois, a fellow member of the committee, on his left

By HARRY F. SIMONS

MATTOON, Ill., Dec. 9.—The majority of Illinois operators were commended for their practices and encouraged to seek state regulation by William P. Cole, (Demo., Maryland), chairman of congressional subcommittee on oil legislation, following a 2-day bus tour of the state's larger oil fields. Any doubt as to the unanimity of the oil fraternity in its opposition to federal control was dissipated as a result of the tour; independent operators and representatives of major companies repeatedly expressed their dissatisfaction with such a measure.

Before boarding the train at Centralia for New Orleans, Chairman Cole, when asked what his reactions were to the conditions in Illinois as he observed them, said: "There are some problems which need solution that only legislation will provide. Some of the fields visited were operated better than I've ever seen. I hope that the state will eventually have a conservation statute of some nature that will not handicap development or hinder initiative. Gas in the Salem field is being wasted, but operators are at least attempting to conserve it."

At a press conference following his arrival at Mattoon on Friday, Mr. Cole indicated that the committee would refuse to recommend the measure in its present form, as he and other members of the committee were dissatisfied with some of its provisions. He added that the bill did have some good features. The effect of the bill on the nation's reserve of crude would be an increase in the recovery from present known fields but would probably result in less prospecting for new sources of supply, according to Mr. Cole. Speaking on the Illinois situation, he had been assured a state conservation law would be passed and that much of the agitation for federal control had come as a result of the state's refusal to enact such legislation. Continuance of this policy would result in other oil-producing states bringing pressure to bear on Illinois and would at the same time favor the case for federal control.

Only three members of the subcommittee were present, Chairman Cole, Rep. Carl E. Mapes of Michigan and Rep. Edward A. Kelly of Illinois; Rep. Charles A. Wolverton of New Jersey and Rep. Herron Pearson of Tennessee were to join the party in New Orleans. Accompanying the subcommittee was E. B. Swanson, assistant director of petroleum conservation, Department of the Interior, and Sam Pettengill, South Bend, Indiana, former congressman and member of the congressional committee which approved the Interstate Oil Compact.

Companies represented and oil men acting as hosts for the tour included: H. H. Anderson, vice president, Shell Oil Co., Inc., St. Louis, Mo.; E. G. Robinson, division production manager, Centralia, Ill., and A. B. Wells, public relations counsel St. Louis, Mo.; W. A. Watkins, manager of eastern division, Carter Oil Co., Mattoon, Ill., and C. D. Watson, Tulsa; R. Ogario, vice president, Texas Co., in charge of production, New York City, and H. N. Pardee, production manager, Tulsa; Lee Westcott, vice president, Pure Oil Co., Chicago; R. B. Kelly, manager of production for eastern division, Olney, Ill., and Douglas Campbell, public relations manager, Chicago; C. C. Carroll, division manager, Ohio Oil Co., Robinson, Ill.; C. E. Buckner, vice president, W. C. McBride, Inc., St. Louis, Mo.; A. R. Campbell, Mid-Continent Oil and Gas Association, Shreveport, La.; Dr. A. H. Bell, geologist, Illinois Geological Survey, Urbana, Ill.; Alex McCandless, president, and Lee Mulvihill, executive secretary, Illinois-Indiana Producers Association, Robinson, Ill.; T. B. Steele, division manager, Kewanee Oil & Gas Co., Robinson, Ill., and George Harsh, Jr., president, and Dorsey Hager, technical advisor, Illinois Producers Equity Association, Centralia, Ill.; John Pugh, president of the Independent Oil Producers Association, Centralia, was prevented by illness from making the trip but talked to committee members before they boarded the train at Centralia.

Technical Explanations

Technical men of the various companies joined the party to aid in explaining particular operations, including Lynn K. Lee, divisional geologist and Bart De Laat, division engineer, Pure Oil Co., Olney, Ill.; W. C. Kneale, assistant division production manager, Texas Co., Salem, Ill.; and Ed Shakley, exploration engineer, Shell Oil Co., Inc., Centralia, Ill. Carl Herrington, engineer, Carter Oil Co., conducted Congressmen Kelly and Mapes through the Louden field Saturday morning after they failed to arrive in time for the trip Friday afternoon, rejoining the main group in the Clay City field.

W. A. Watkins and Congressman Cole, at Louden repressure plant, snapped during a conversation

There were no formal hearings but operations in each field were explained by a representative of the company having the largest interest in the particular pool. Both the congressmen and the oil men asked questions pertaining to particular phases.

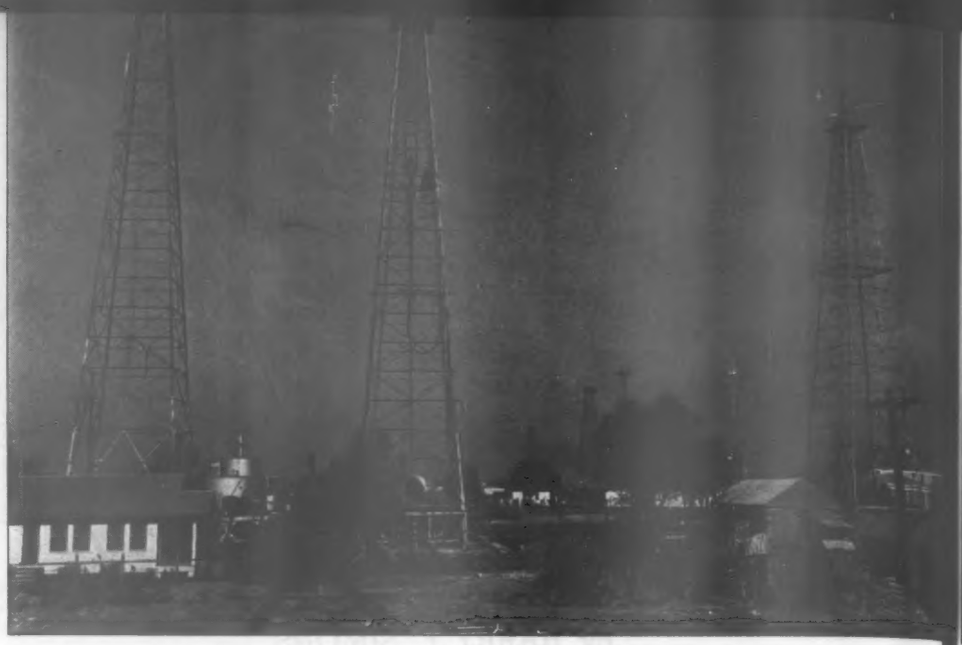
Friday afternoon, Mr. Cole and the oil men visited the Louden pool where W. A. Watkins, described the extent and development of the field, the three producing zones (Cypress, Paint Creek and Bethel sands), the Shuler (Sunflower) spacing pattern in use and the operation and significance of the repressure plants. Stops were made at one plant and at a Carter Oil Co. field camp. Mr. Watkins pointed out that 25 per cent of the gas produced with the oil was being returned to the sand and that this method would increase the ultimate recovery approximately 25 to 30 per cent. Technical phases of multiple-zone completions and the production from this type well were also discussed.

To a question by Mr. Swanson as to whether higher recovery was expected from the area being repressured, Mr. Watkins replied in the affirmative. In answer to a question by Mr. Cole, Mr. Watkins said, "Our company has long been committed to sound conservation. In areas where state conservation is not in force, we do it voluntarily wherever possible." Mr. Watkins then pointed to the record of the industry in the advancement of methods of operations to increase the recovery from oil sands and concluded that, if left alone, the industry could continue to work out its own problems. After a few more questions on wage scales, building of roads and provision of schools for the children of employes, the party returned to Mattoon.

Saturday morning the congressmen and oil men visited the division offices of Pure Oil Co., at Olney, where Lynn K. Lee described the development of the central basin fields in which the McClosky lime fields predominate. Mr. Cole asked what was being done concerning repressuring of the area and Mr. Lee pointed out that lime fields generally were impossible to repressure with gas because of the variable porosity and permeability which prevented control of the drive. Mr. Lee added that the old Lawrenceville field developed a water-drive after it had been producing for a number of years and natural water flooding resulted.

Mr. Swanson then questioned Mr. Lee concerning the edgewater in the basin fields and the Pure

(Continued on Page 32)



Discoveries of
In Coastal Lou

By NEIL WILLIAMS

NEW ORLEANS, La., Dec. 11.—With three new fields brought in the past month, another practically assured for early opening, and favorable indications being uncovered in other wildcats now drilling, discovery of additional reserves in coastal Louisiana continues at a rapid pace. Predictions made earlier this year by a number of operators that favorable prospects for exploitation were about exhausted in this district and that the limit of fields, based on known prospects and potentialities, soon would be reached, are now being refuted.

Thirteen fields have been opened in this district so far this year. In the light of favorable indications encountered in various wildcats still drilling, it is considered likely that before the end of the year the number of discoveries will be increased. It is evident the district still holds wide possibilities for further exploitation.

Although, numerically, discoveries this year have not come up to the record of 1938 when 20 fields were found, from the standpoint of new potential productivity indicated the year is regarded as one of the most successful wildcatting periods in the history of the district. With the exception of 1938, the number of discoveries this year is greater than in any previous year.

During the past three years, 45 fields have been discovered in coastal Louisiana, representing about half of the total proved in the district. Prior to 1937, only 50 fields had been found, with exploration and development dating to 1901. This is an average of slightly less than 1½ fields per year as compared to an average of 15 fields per year during the past three years.

Particular attention has been attracted to the potentialities of the district as a result of the rapid succession of three good fields opened during the past month. All are regarded as of more than ordinary importance. These fields are Barataria, Jefferson Parish, Happytown, St. Martin Parish, and La Place, St. John the Baptist Parish.

Barataria, about 15 miles south of New Orleans by airline, was opened early in the month by California Co.'s No. 1 Adam Rutley, Section 2-16s-23e. Drilled to a total depth of 12,222 ft., the discovery well was perforated at 8,204-14 ft. (9⅝-in. casing cemented at 8,496 ft.), and flowed initially 7 bbl. of pipe-line oil hourly (168 bbl. daily) through a ⅛-in. choke. This is the second field in the parish, the other being Lafitte, about six miles south. A second test, drilled by Contintental Oil Co. about a mile from the discovery, was started about the same time, and is drilling below 11,500 ft. Barataria, deeply seated salt-dome type of structure of indicated large proportions, is one of the older prospects on the Louisiana coast, although this is the first deep drilling undertaken.

Of the three November fields, Happytown, judging from the record of the discovery well, is most prolific. The discovery, Shell Oil Co., Inc.'s No. 1 Iberville Land Co., Section 86-8s-7e, flowed on potential gage 1,013 bbl. of 39.3-gravity pipe-line oil per day through a ¼-in. choke. Production is from a Miocene sand in which casing was perforated at 9,745-58 ft. Hole was drilled to a total depth of 10,000 ft. Location is in an isolated swamp area of the Atchafalaya River basin in the northern part of St. Martin Parish. The discovery proves another of the numerous prospects found by Shell Oil Co. Inc., in an intensive geophysical exploration play covering the Atchafalaya River basin and southeastern Louisiana several years ago.

La Place Field Discovery

The discovery well of the La Place field, opened late in November, was completed as a distillate producer. This well, Pan American Production Co.'s No. 1 Mill, Section 12-11s-7e, was drilled on a "farmout" from Shell Oil Co., Inc. It flowed initially at the rate of 5½ bbl. of 61.3° gravity distillate hourly, with 4,400,000 ft. of gas daily, through a ¼-in. choke from a sand in which 7-in. casing (cemented at 10,120 ft.) was perforated at 8,115-21 ft. The hole was drilled to a total depth of 10,175 ft., encountering a succession of sands showing oil, gas or distillate. Prior to completion in the present sand, unsuccessful tests were made in several deeper sands. This is the first production in the parish. Location of the field is about 15 miles up the Mississippi River from New Orleans.

Another field now looms with the favorable showings encountered by Tide Water Associated Oil Co.'s No. 1 Louisiana Delta Farms, Section 6-17s-23e, a wildcat on the Bay Brussell prospect, La Fourche Parish, about 6 miles west of the Lafitte field, Jefferson Parish. This well encountered four sands showing oil and gas from 8,748 ft. to 9,935 ft., any one of which is believed certain of commercial production. While these have been passed up for the time being to carry the hole deeper for exploratory purposes, it is probable that before the end of the year attempts will be made to complete a well in at least one, if deeper sands are not found. At present the hole is down to 10,576 ft., where drilling is temporarily delayed by stuck drill pipe.

One of the most important discoveries of the year is believed to be the Paradis field, St. Charles

FIELDS OPENED IN COASTAL LOUISIANA THIS YEAR

Field—	Parish	Discovery well	Month comp.	Total depth	Perf. depth (ft.)	Completion data
Barataria	Jefferson	California Co.'s No. 1 Rutley	Nov.	12,222	8,204-14	7 b.p.h., ⅛-in. ch.
Bel	Allen	Bel Oil Corp.'s No. 1 Mrs. J. A. Bell	June	9,010	7,272-92	1,000,000 cu. ft. gas, ⅛-in. ch.
Eola	Avoyelles	Sid Richardson's No. 1 Haas	Jan.	8,581	8,445-8,550	275 b.p.d., ⅛-in. ch.
Grand Lake	Cameron	Superior Oil Co.'s No. 1 State	May	9,179	8,365-95	384 b.p.d., 14/64-in. ch.
Happytown	St. Martin	Shell Oil Co.'s No. 1 Iberville	Nov.	10,000	9,745-58	1,013 b.p.d., ¼-in. ch.
Kenilworth	St. Bernard	Vendome Pet. Corp.'s No. 1 Kenilworth	May	11,469	10,600-10	230 b.p.d. (40 per cent water), 13/64-in. ch.
La Pice	St. James	Shell Oil Co.'s No. 1 Schexnayder	June	11,314	10,910-75	47 b.p.d. (distillate), 10/64-in. ch.
La Place	St. John the Baptist	Pan American Prod. Co.'s No. 1 Mill	Nov.	10,175	8,115-21	5½ b.p.h. (distillate), ⅛-in. ch. 4,400,000 cu. ft. gas
La Fourche Crossing	La Fourche	J. Perry Scranton's No. 2 Martinez	Sept.	10,516	10,128-32	312 b.p.d., 5/32-in. ch.
Paradis	St. Charles	Texas Co.'s No. 1 Paradis	June	10,787	9,895-9,915	120 b.p.d. (distillate), ¼-in. ch.
Perkins	Calcasieu	Humble O. & R. Co.'s No. 1 Edgewood	Aug.	8,005	7,038-42	1,000,000 cu. ft. gas, ⅛-in. ch.
Plumb Bob	St. Martin	Texas Co.'s No. 12 St. Martin	Sept.	9,011	8,570-90	302 b.p.d., 12/64-in. ch.
Vermilion Bay	Iberia	Texas Co.'s No. 3-B State	July	10,241	10,131-239	300 b.p.d., 10/64-in. ch.

*Second well completed 17 b.p.h. 38.3° gravity oil, ⅜-in. choke, 10,295-10,340 ft.

Thirteen new fields have already been opened in coastal Louisiana this year. The views at the top of these pages are of Golden Meadow field, La Fourche Parish

New Reserves isiana Continue

Parish, about 35 miles southwest of New Orleans. This field was opened in June by Texas Co.'s No. 1 Paradis, Section 39-14s-20e, completed as a distillate well, flowing 120 bbl. of distillate daily through a ¼-in. choke with casing perforated in sand at 9,895-9,915 ft. (bottom of hole 10,787 ft.). Since, a second well, No. 2 Paradis, about a mile from the first, has been completed, flowing initially at the rate of 17 bbl. of 38.4-gravity pipe-line oil hourly through a ⅜-in. choke from a sand about 425 ft. below the discovery well's producing horizon. Casing was perforated in this sand at 10,295-340 ft., after hole had been drilled to a total depth of 11,-170 ft. In addition to the discovery sand, logged as sandy shale showing saturation, which was passed up, and the present producing horizon, seven other sands with productive potentialities were logged. Not only have numerous sands been indicated, but the structure as outlined is of unusually large area.

So far, Eola, Avoyelles Parish, is the only one of this year's discoveries in which any general development has been undertaken. This was the first field opened this year, the discovery well, Sid Richardson's No. 1 Haas, being completed in January. Although the major portion of the productive area is held by Sid Richardson and associates and Amerada Petroleum Corp., there are a number of other operators and an active drilling program has been carried on; to date approximately 150 wells have been drilled. Most of the other fields opened are owned or controlled in their entirety by one or two companies or are in areas in which difficult terrain conditions are forcing restricted development.

It was the opening of the Eola field that gave incentive to the Sparta-Wilcox play across Louisiana, now active across Texas. It marked the first important production from the Wilcox proper. The discovery well was completed in this horizon at a depth of 8,445-8,550 ft., flowing 275 bbl. daily through an ⅛-in. choke. Since, major Wilcox production has been developed in the Villa Platte field, formerly productive from the Sparta, but, except for that, Wilcox exploration has proved more or less disappointing. Despite the disappointments, however, the Wilcox still is regarded as offering extensive potentialities for new production in coastal Louisiana.

Other Fields This Year

Other fields opened this year include Grand Lake, Cameron Parish; La Pice, St. James Parish; La Fourche Crossing, La Fourche Parish; Plumb Bob, (Henderson), St. Martin Parish; Vermilion Bay, Iberia Parish; Bel, Allen Parish, and Perkins, Calcasieu Parish.

The latter two so far have produced only gas, and for the present do not appear too promising. Kenilworth production, limited to one well, has proved small and short-lived, although the discovery had numerous sands showing oil and gas and the area still is prospective. A second well drilled proved dry. Most of the other fields have given indications of productive potentialities, although development has been limited, being confined to the discovery wells.

Although its discovery is credited to 1938, the Golden Meadow field, La Fourche Parish, where an active drilling program is under way, has received all its development this year. Its discovery well, Texas Co.'s No. 1 Louisiana Terre Co., was originally completed late in December 1938, to give the discovery to that year, but at that time it shortly started making considerable salt water and was killed, being completed finally early in January of this year.

First oil production for the Chalkley field, Cameron Parish, also was not opened until this year. The field, a 1938 discovery, originally produced only distillate. With the development of oil production this year, the field is looming as one of the more important discoveries.

The succession of fields being opened, together with the proving of new sands and additional producing areas and extensions at other coastal Louisiana fields, is a reflection of the continued active wildcatting and development program carried on. Despite slackening of work in some other areas, drilling has been increasing steadily in coastal Louisiana. Although new exploration and leasing is at low ebb, numerous prospects located and blocked in previous geophysical exploration plays have required drilling. During the past couple of years in the active wildcatting play, many have been checked off as unfavorable, along with those that have proved productive, but there still remains a large number of prospects that have not been drilled. Before the present drilling ends it is anticipated all these undrilled known prospects will be drilled, and it is considered probable that, by the law of averages, a substantial proportion will be found productive.

At the same time in view of the large unexploited areas along the coast, and new potentialities constantly being revealed, it is considered certain that when active exploration again is resumed, an additional crop of prospects will be brought to light to open the way for continued wildcat drilling and development of additional fields.

Iberia Parish continues to merit attention from operators, as new fields are discovered. The view below shows a drilling scene in this area

STATE CAPITALS

TEXAS

INCREASED ALLOWABLES FOR SEVERAL Texas fields were approved by the Texas Railroad Commission last week. Effective December 5, the commission increased the allowable of the Panhandle district from 112,341 bbl. to 130,527 bbl. daily. This was a gain of 18,186 bbl. for the district; however, calculated on a 19-day month, the increase amounts to 12,990 bbl. daily. Excluding the shutdown periods, this is the largest total allowable figure granted the Panhandle field since being under proration rules. The new order allows the field its full demand for the month and insures the refineries in the district enough crude to run at near capacity. It will also stop all withdrawals from an already depleted storage. The increase was granted at the petition of the operators and purchasers of the district. Effective December 5 and until further notice, the displacement factor will be 775,000 cu. ft. of gas per well per day. The new Panhandle daily allowable, considering shutdowns, amounts to 80,000 bbl. daily.

Thus Texas, with a daily net allowable of 1,415,843 bbl. which includes the Panhandle increase, is still some 22,257 bbl. below consumer demand as estimated by the U. S. Bureau of Mines. The commission is expected to allocate this difference to other fields of the state before the end of the month.

Other fields receiving increases in allowables were as follows: Jennings Ranch field increased from 1,176 to 1,645 bbl. daily effective December 1; East Premont field increased from 185 to 750 bbl. daily effective December 1; East Placedo field in Victoria County increased from 484 to 555 bbl. daily effective December 1; Dean field in Cochran County increased from 120 to 200 bbl. daily effective November 10.

SUPREME COURT'S RULING upholding the lien provisions of the motor-fuel-tax law will vitally affect other state statutes, Asst. Att. Gen. Pat Neff, who handled the litigation, pointed out last week.

The motor-fuel-tax law gives the state a lien on the property of a gasoline distributor to secure payment of the motor-fuel taxes.

Mr. Neff pointed out that the lien provision, which the court upheld and held superior to liens of the federal Government and private creditors, is credited the same as the lien provision of the cigarette-tax law and had the Supreme Court held the motor-fuel-lien provision invalid the cigarette lien likewise would have been invalid.

Moreover, the lien provisions in several other state-tax laws, including the big money producer, the oil tax, are quite similar if not identical.

Mr. Neff said there were about 10 cases pending in the courts involving the priority of state and federal liens. He had not been advised whether federal officials planned to appeal the Supreme Court's ruling.

THE BOARD OF DIRECTORS of the Independent Oil Producers Equity Association at its monthly meeting in Mineral Wells on December 11, passed a resolution directing its officers to request the Texas Railroad Commission to promulgate an oil proration order that will eliminate shutdowns for production in Texas.

The request will be made at the state-wide hearing Friday in Austin.

When asked to comment on the resolution, J. S. Bridwell of Wichita Falls, president of the association, stated that the action of the board was prompted by requests from numerous producers located in various sections of the state, and that the resolution did not express the views merely of members of the association.

At the meeting many producers contended that their oil wells were seriously damaged by the 15-day shutdown in August, and that the frequent shutdowns now required by the commission also do substantial damage to various producing properties.

In addition to the damage actually done by shutdown days, it was also brought out that substantial inequity between producers and fields resulted by reason of the fact that many fields and numerous wells are now exempt from shutdown days.

It also was stated that dissatisfaction was inevitable and increasing daily where some fields were restricted to 19 days' production at stringently reduced allowables during the month of December while producers in neighboring fields were allowed 31 days' production of allowables which really were in excess of what the wells can make.

The board of directors also decided to request the commission to reflect its action on applications for special or increased allowables in monthly orders only, and that increases be made effective at the time the state-wide order is promulgated rather than at frequent intervals during the month. By so doing, it was contended the commission could write an order covering the full estimate of the Bureau of Mines after having made allowances to meet special contingencies that appear equitable from evidence taken at the special hearings.

ARKANSAS

ARKANSAS OIL AND GAS COMMISSION will hold a public hearing on Monday, December 18, to establish the allowable production in flush and semiflush fields of the state in January and to take action on the following matters:

Fixing of field rules for the recently discovered area brought into production by the Standard Oil Co. of Louisiana's No. 1 C. F. Petty Stave & Lumber Co. in the SE cor. of Section 4-17s-21w, Columbia County, in what is known as the "Big Creek" area.

Application of Phillips Petroleum Co. to change general Rule B-26, "Fire Walls," originally set for December 14.

Whether or not the method of allocation of production for the Village field should be changed from "acreage times pressure" to "volumetric displacement," due to wide variance in operating gas-oil ratios.

Application of Mid-Continent Petroleum Corp. to drill No. 2 R. S. Foster as an exception to the spacing rule of the Magnolia field, continued over from November 16.

Petition of P. W. Mayfield and Myrtle Mayfield to change the method of allocation of production for the Jones pool and the Schuler field from "acreage times pressure" to "the basis of acre feet of saturated sand under each particular drilling unit times the bottomhole pressure of the well on that particular drilling unit."

KANSAS

COURT DECISION ON CONSTITUTIONALITY of the Kansas proration plan moved closer with announcement that suits of Tulsa Oil Corp., of Tulsa, and of Bay Petroleum Co., of McPherson, will be heard by a three-judge federal tribunal sitting at Wichita January 19.

Restraining orders granted the two companies in the Hittle pool, Cowley County, and the Otis pool, Barton County, now permit runs in excess of prorated allocations by the Corporation Commission.

OKLAHOMA

A MARKET-DEMAND HEARING will be held in Oklahoma City on Thursday, December 21, at which crude buyers will inform William J. Armstrong, chief conservation officer, of the quantity of crude they will require in January from Oklahoma leases.

The Corporation Commission took under advisement an application for an amended order establishing rules covering safety and quality of gasoline sold in the state.

W. J. Armstrong presented at a hearing his application to raise minimum specifications as to gasoline quality. At the same time, an effort is being made to establish an octane rating as required by House Bill 437.

MICHIGAN

OIL AND GAS ASSOCIATION of Michigan at its annual meeting in Mount Pleasant put itself on record as 100-per cent opposed to the Cole bill or any other measure the passage of which would throw the oil industry into the arms of the federal Government. A. J. Weideman, executive secretary in his annual report recited the following accomplishments of the association this year: A state oil conservation law; the voluntary proration law in the Temple field before the conservation law was effective; continued progress in the fight against pollution by salt water; approval of equitable assessments against wells in the Southwest Michigan fields; better and more economical cementing program in the Walker field; prevention of a movement to increase the state severance tax; cooperation with the Independent Petroleum Association of America in the attempt to reduce the depletion allowance; and progress in price stabilization.

MICHIGAN OIL INTERESTS, including the state Conservation Commission, the state Oil Advisory board, and the Oil and Gas Association of Michigan, have gone on record against federal intervention in the oil industry. The commission went on record Friday, on recommendation of the Advisory Board and others interested, as being "unalterably opposed" to the bill proposed by Rep. William P. Cole, Jr., of Maryland, which would permit the U. S. Government to regulate the industry. The commission decided to send P. J. Hoffmaster, supervisor of wells, and R. A. Smith, state geologist, to New Orleans this week to argue against the bill before a congressional committee.

IOWA

ON PHILLIPS PETROLEUM CO. with its drilling well in Union County; on Guthrie County test of Fletcher E. Hunt, or on subsequent wildcats rests the burden of proof that oil exists in Iowa. Until some wildcatter proves the existence of oil, the Iowa statutes —unless changed—will prevent sale in Iowa of oil and gas leases and royalties on Iowa property.

This information was conveyed the past week to the St. Joseph, Mo., News-Press by Ralph F. Knudsen, superintendent of securities, Des Moines. He operates under the Insurance Department of Iowa.

Mr. Knudsen said the department would not consider an application for registration of oil and gas leases and royalties on Iowa property until it had been definitely proven that oil could be found in the state.

Oil and gas leases are regarded as securities in Iowa and securities must be registered. Persons selling these must be registered as dealers or salesmen. Not less than $25 nor more than $300 is the fee for filing securities not in excess of $1,000,000 value. Dealers must pay $25 to register and $25 for each annual renewal. Salesman must pay $3 to register and $3 for each annual renewal.

In the past few years the Iowa Insurance Department has been able to support the above interpretation of the law by several indictments and convictions leading to a penitentiary sentence in the case of several individuals who had sold oil and gas leases and royalties in the state.

The OIL AND GAS JOURNAL

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No Longer Needed

The fact that gasoline stocks are now approximately seven million barrels higher than a year ago, with the resulting weakness in gasoline markets, brings up the familiar question as to how large inventories of motor fuel should be.

While not the sole controlling factor, weakness or strength in the industry's gasoline markets for years has fairly closely paralleled the inventory situation.

Refiners, as a group, have not learned the lesson crude-oil buyers and sellers have applied in recent years.

Heavy stocks of crude oil and gasoline were developments of the days when the industry's operations were on a feast-or-famine basis. Crude buyers felt it necessary to maintain increasingly heavy crude stocks in order to bridge the gap between the industry's ups and downs in crude-oil production.

In the twenties and earlier the nation's crude-oil production varied widely with the fluctuations in the output of new fields. These fields, produced on a wide-open basis, often brought rapid increases in the national output, followed by quick declines.

To protect their customers, crude buyers found it expedient to have sufficient stocks on hand to cover any possible shortage between these extremes in output.

The advent of conservation and proration has changed this situation and now the industry has large reserves underground to protect it against fluctuations in current output and requirements.

The net result has been that crude-oil stocks today are more than 200,000,000 bbl. less than they were a few years ago. Even the sharp reduction which accompanied the shutdown in August, resulting in a decline of more than 35,000,000 bbl. within 3 weeks, did not seriously disturb operating conditions.

This fundamental change in the industry's method of producing and storing crude oil should also be reflected in refinery operations. If it is no longer necessary to keep large crude-oil stocks aboveground because of the inventories beneath the ground, by the same token it is folly to maintain large inventories of finished products, particularly gasoline.

The fact that there is greater and greater flexibility in plant operating methods also has a bearing on the situation. When the refiner got 25 per cent or less gasoline from a barrel of crude there was justification for storing gasoline to meet the peak summer demand.

Now the refinery yield of gasoline is better than 45 per cent, and including natural gasoline it is nearly 50 per cent of the crude-oil run to stills. During the same period there has been a steady reduction in the variation between summer and winter consumption of gasoline.

The ending of the former wide variance in gasoline prices during the winter and summer seasons has eliminated any possible profit in an expensive storage program for motor fuel. More often than not refiners have accumulated large gasoline stocks during winter months and liquidated at lower prices the following summer.

Most refiners now have sufficient flexibility in their refining processing, if properly used, to take care of practically all seasonal fluctuations in gasoline demand.

Certainly the further expansion of these facilities, where needed, is more to be desired than continuing excess fall and winter accumulations with the resulting depressing effect on the markets of the entire industry.

The refining industry needs to make a comprehensive study of today's changed conditions in regard to crude supply, seasonal demands for finished products, plant facilities and prices in relation to inventory needs for the purpose of impressing their full significance on all operators.

Two Good Producers Added at Tinsley, Mississippi

By GEORGE WEBER

JACKSON, Miss., Dec. 11.—Two good producers were added to the Tinsley field, and an important outpost wildcat to the northwest is coring in the Eutaw formation, having missed the Woodruff sand of the Selma formation. New wildcat locations and an abandonment of the deep Wilkinson County wildcat completed the week's highlights.

In Yazoo County the state's first commercial oil pool was extended by completion of two good producers. Jones & O'Brien's No. 1-B Stevens, a northedge test, made the field's second Eutaw-formation producer when it gaged 426 bbl. with tubing pressure of 180 lb. and casing pressure of 20 lb. The Eutaw sand was encountered at 4,862-82 ft., and 7-in. casing was set at 4,860 ft., with total depth of 4,887 ft. This well shows the Eutaw thickening from 10 ft. in the discovery well of the horizon, one location south, to 20 ft., and drilling to the north is enhanced, although irregularity of both the Selma and Eutaw sections precludes any definite probabilities of better Eutaw production to the north of present field limits.

Up-to-date information on Mississippi wildcats and tests will be found on Page 109

On the southeast an edge test, Union Producing Co.'s No. 2 Woodruff, was brought in as the fifth Selma chalk of Woodruff sand producer, making 557 bbl. daily through a 20/64-in. choke with tubing pressure of 165 lb. The Woodruff sand was logged at 4,535-59 ft., a good section in comparison with other Woodruff wells. These two producers bring the total to seven.

In a wildcat location over 2 miles northwest of the present limits, T. B. Slick, Jr.'s No. 1 W. S. Atkinson has reached critical depth. No Woodruff sand was encountered, which is to be expected, since the sand has already been defined on the north in the field proper, and the test was last reported coring in the Eutaw formation below 4,917 ft. The Eutaw was topped at 4,638 ft.

Four other field tests are under way, and the wildcat, Conroe-Wilcox Minerals, Inc.'s No. 1 Stubblefield, due east of Yazoo City, reports top of the Wilcox at 1,760 ft. The test was shut down over the week end at 3,600 ft. awaiting rig repairs.

Attala, Chickasaw, Choctaw, and Hinds counties gained new wildcat locations during the week, and a total of nine other wildcats are drilling. In Hinds County Byrd-Frost and others' No. 1 Gaddis Farms, near Bolton, had cored at 5,907-22 ft., recovering 4 ft. of gritty sandy lime in the Selma formation, and is reaming down for further coring. In the same county Mississippi Basin Oil & Gas Co.'s No. 1 Gaddis Farms is drilling in sidetracked hole below 5,150 ft.

In the northeastern section of the state, G. C. Grasty's No. 1 Kentucky Lumber Co. wildcat in Itawamba County is drilling the Trenton lime, believed the best possibility. This member lies at the top of the Ordovician and was topped at 1,690 ft. From subsurface data available, it may run from 500 to 800 ft. thick, and the presence of several good sand sections in which oil might accumulate has quickened interest. The Pennsylvanian, which outcrops to the northeast, was missed in the test, and the deeper markers were encountered much higher than in surrounding areas.

Wilkinson County's only active test, Louisiana Progress Oil Co.'s No. 1 Young was abandoned at 5,750 ft. in the Wilcox. This was in the southwestern corner of the state.

Although leasing continues strong and competition is keen in some areas, prices have not yet advanced to where it can be considered an expensive play. Long-term leases are in a majority; and excepting where large blocks change hands and drilling obligations are incurred, wildcatting is not expected to show nearly the same volume of activity as leasing. Geophysical crews continue to shoot in many counties, and four seismograph and five gravity-meter crews were moved in this past week. This increases the total to about 60 crews in Mississippi and four or more in Alabama.

Government Asks Rehearing In the Madison Case

WASHINGTON, D. C.—The Government has asked the U. S. Supreme Court to hear the Madison, Wis., case again after the vacancy caused by the death of Justice Pierce Butler has been filled.

By an equally divided decision, the court upheld the action of federal District Judge Patrick Stone in dismissing indictments against 11 defendants 6 months after they had been convicted by a jury. Justice Butler died before the decision was given, November 22, and had not participated in the case.

Solicitor Gen. Robert H. Jackson now has filed a petition for a rehearing. He said an "authoritative determination" of the power of a district judge to dismiss defendants after a jury had found them guilty was a matter of wide concern.

"Until this uncertainty is dispelled," he continued, "federal district judges will hesitate to follow the procedure approved by the decision of the court below and defendants in criminal prosecutions will be in doubt as to their rights respecting one of the more common procedural steps, a motion for a directed verdict. The desirability of certainty in the rules governing criminal practice and procedure is beyond question."

Navy Wants Control of Subsea Fields

WASHINGTON, D. C.—The Navy's chief law officer expressed the opinion that Congress has "full and complete authority" to create a petroleum reserve of the valuable subsea oil deposits bordering the California coast line.

THE MARKETS*

CRUDE OIL: Texas producers were not subjected to extra "holidays" in the past week, and the production of the state rose to an average of 1,568,771 bbl. per day, an increase of 508,332 bbl. per day over the record of the previous week. This and a 26,000-bbl. increase in California production were mainly responsible for the total of 3,829,590 bbl. per day, only 6,998 bbl. below the all-time record made in the last week of July, this year.

REFINERY: Mild improvement was recorded by gasoline as a result of distress inventories being pretty well cleaned up. Natural gasoline in swift decline and apparently still headed downward. Lubricating oils firm at unchanged prices. Heating oils steady in interior areas and extremely strong on Atlantic seaboard. Wax increasingly tight.

TANK WAGON AND POSTED DEALER: Tank-wagon prices of kerosene and fuel oil revised upward in northeastern territory. Irregularity exists in tank-wagon and dealer prices of gasoline; minor changes effected local adjustments.

FINANCIAL: Oils trailed industrial issues, which also were weak. Trading was inactive and changes were narrow. Average of 30 representative stocks for week ended December 9: High, 26.62; low, 25.78; close, 26.03. Week ended December 2: High, 27.14; low, 25.94; close, 26.22.

*Detailed information in market section.

MAGNOLIA NAMES TWO VICE PRESIDENTS

Election of Walace Hawkins and George Miller as vice presidents and directors of Magnolia Petroleum Co. and Magnolia Pipe Line Co. has been announced Thursday by D. A. Little, president of both companies.

Mr. Hawkins has been with the legal department of the companies since 1925 and general counsel since July, when he succeeded W. H. Francis, who retired. Mr. Hawkins graduated from the University of Texas law school in 1920. In 1921 he was named assistant attorney general and served until 1924, when he resigned to go into private practice in Houston. The next year he entered the legal department of Magnolia.

George Miller has been with the marketing division of the company since November 11, 1921, and acting marketing manager since July, 1939; he was appointed marketing manager, succeeding Fred M. Lege, Jr., deceased. Before being named acting marketing manager, Mr. Miller was manager of the distribution department. His more than 27 years' continuous service in the marketing division included experience in practically every department of that division.

WALACE HAWKINS

GEORGE MILLER

West Central Texas Oil Men Hear Buttram and Hunter

By D. H. STORMONT

MINERAL WELLS, Tex., Dec. 11.—The West Central Texas Oil and Gas Association in its annual meeting here today devoted most of its business sessions to discussions on taxation, proposed federal regulations and problems of the independent operator. In an attempt to better acquaint those in attendance with existing problems of the industry, both national and local, at the afternoon session the general theme was, "Is it true what they say about the petroleum industry?" Over 600 independent operators and others were in attendance at the meetings and the banquet session held Monday night.

New officers elected at the directors meeting were: Joe A. Clarke of Albany, president; W. J. Rhodes of Breckenridge, first vice president; J. Emmett Whiteside of Brownwood, second vice president, and Harold G. Neely of Fort Worth, third vice president.

Chief addresses were delivered at the annual banquet by Frank Buttram, president of the Independent Petroleum Association of America, Oklahoma City, and J. C. Hunter, president of the general Mid-Continent Oil and Gas Association and past president of the West Central group.

Mr. Buttram emphasized subjects which call for united action by the oil industry and by the public. One of the most acute was taxes. He asserted that in 1938 the entire production of automotive equipment was valued at $1,400,000,000 and the taxes paid by the automotive industry and by the users of automobiles totaled $1,529,000,000. This is of concern to the producer of oil because the increasing burden laid upon the car user tends to limit his use of his car. Of more pressing concern to the oil industry, he said, is the threat to remove the depletion allowance, a recognition by Congress for many years of the hazards inherent in industries which deal in non-replaceable resources.

To Fight Venezuelan Agreement

Another vital question today, he said, is the recently announced Venezuelan trade agreement which cuts in half the excise tax on crude oil and fuel oil, declaring it was the plain intent of Congress when it authorized the executive department to make trade agreements to leave excise taxes undisturbed. The executive department proceeded in this without authority, he said, adding that the I.P.A.A. is going to fight to bring about cancellation of the portion of the Venezuelan agreement which affects oil.

Another danger to the industry today is embodied in the Cole bill now before Congress, Mr. Buttram said. The basis claimed for its necessity, he stated, was that waste is occurring in the production of oil and that the national reserves are endangered. In his opinion, the Cole bill is another attempt to increase the power of the centralized government, and he disputed assertions implied in the bill that waste would be prevented or reserves made more secure. Instead, he said, it would provide a dictatorship which would impair the efficiency of the producing industry, including the discovery of new reserves.

He counseled the producing branch of the industry to challenge the assertion currently coming out of Washington that the producers are wasting our petroleum reserves in wanton manner.

"Let's admit that waste has been committed. We do not weaken our present case in the slightest by saying there has been waste. This is a relatively new industry; it took time to develop efficient practices. Shall we be criticized because in the early days the refiners burned the gasoline to get rid of it, when there was no use for that product? Are we to be held in account today because some time in years gone by, natural gas went into the air from oil wells because there was no market for the gas?

"We still have some preventable waste in the producing end. We are learning every day more about stopping it. This is a very peculiar industry—we have few secrets from each other in respect to

Frank Buttram, I.P.A.A. president, warns hearers of dangers confronting the industry

improving our efficiency. As soon as one operator learns how to do a better job, he shares the knowledge with the others. He wants to see the whole level of efficiency raised, because that makes it easier for him to apply his new method."

Regarding the total oil reserves, Mr. Buttram challenged the assertions that there is any danger, either immediate or prospective, of an exhaustion of supply. Reserves will continue to increase, he declared, after pointing out they had increased from 5 or 6 billion barrels at the close of the World War to a present reserve of 18 to 20 billion.

Judge Hunter emphasized the need for better relationship between the oil industry and the consuming public; that the public should be made better acquainted with the industry's problems. He also discussed oil taxation from the standpoint of public expenditures, pointing out that no government, any more than individuals, can safely obligate itself to spend more than its revenues. The public is spending 30 cents of every dollar for governmental agencies; of the governmental expenditures only 60 per cent is being paid by taxes and the remainder is being added to indebtedness; government expenditures are being carried on at a rate of $23,000 per minute, of which $11,000 is added to indebtedness.

He called attention to a section of the Texas Constitution in which the legislature is limited to levy taxes only to the extent required for the necessary, economical administration of government. If the public would cease seeking services or other things it can do without, expenditures would be lowered and taxes automatically reduced.

Operators Favor Law Change

Of state-wide interest was his statement that stripper-well operators in West Central Texas, generally, favor a change in Texas' fundamental laws by an amendment providing that the heads of the Railroad Commission, highway, educational, and attorney general departments would not be eligible to seek the governorship until their term in office had expired. Such a limitation would prevent department heads from using their position and influence over those under their jurisdiction, and would allow them to devote their full time to their present position, he said.

Mr. Hunter touched briefly on the Cole bill and possible federal regulation, but stated, "The best safeguard against federal control, or agitation for federal control, is for the industry and the oil-state regulatory bodies to do such a good job of preventing waste there would be no need or agitation for any type of federal interference."

In the afternoon session discussion covered the subjects of state regulation of production, taxes, workmen's compensation costs, legal liability hazards and other topics. J. H. Reynolds of Cisco led the discussion on state regulation; C. W. Hoffman of Eastland on taxes; Elbert E. Hall of Abilene, on workmen's compensation; Blake Johnson of Breckenridge, on legal liability hazards, and E. M. Davis of Brownwood, in the discussion of why the general public should support the West Central association. The session was presided over by Harold G. Neely.

Pew and Holliday Warn Against Paternalism

NEW YORK.—J. Howard Pew, president of the Sun Oil Co., told the Congress of American Industry business enterprise must preserve its freedom for endless opportunities ahead of it. Ridiculing economic planning, the Philadelphia industrialist said government paternalism would close the door to "unlimited and uncharted areas of new opportunity."

W. T. Holliday, president of the Standard Oil Co., of Ohio, said the "more abundant life" is the objective of American manufacturers but can be reached only if "human initiative" is allowed free play.

Cole Hopes for Illinois Law

(Continued from Page 25)

geologist replied that to date there had been no indications of such a drive and that artificial water drive might eventually be necessary. Based on the Lawrenceville field, Pure Oil Co. has estimated that the probable life of the McClosky fields will be 10 years because, being deeper, they will reach the economic limit sooner, Mr. Lee said. When asked if Pure would have operated differently had it owned the entire area or if it had been unitized, Mr. Lee replied in the negative, explaining that in almost every instance they had been able to consolidate odd pieces of acreage.

Chairman Cole's inquiry as to the amount of land under lease in Illinois brought out that there were 6,000,000 acres and that approximately $10,000 daily was paid in rentals and $40,000 per day was going to royalty owners. When asked if Pure Oil Co. was in favor of state control, Lee Westcott, vice president, replied, "Yes." To the question "why?", Mr. Westcott added that his company was interested heavily in the oil business in the state and proper state regulation had been found to bring a stability of operation which resulted in greater recovery for less cost, as there was then no over-investment in the effort to take care of peak production. Property owners and royalty owners are also benefited, he said. "Of course," he added, "success of state regulation is a matter of good administration."

The congressmen were then taken through the Noble, North Noble, Clay City and South Clay City fields, visiting one of Pure's central-geared powers and stopping at Pure Oil Co.'s Bunny Travis camp for lunch and an informal discussion of living conditions and wage scales. After lunch the party proceeded to the Salem pool.

H. N. Pardee, of Texas Co., pointed out that the Salem field was to a great extent similar to the Louden pool, being located on the same general trend, having a multiplicity of producing zones (Benoist and Aux Vases sands; McClosky, St. Louis and Devonian limes), and using many of the same technical practices. Some operators used multiple-zone completions while others preferred to drill separate holes to the respective pay zones. While Texas Co. owns 70 per cent of the leases, the situation in Salem is much more competitive than it is at Louden, Mr. Pardee said.

Efforts were being made to conserve the gas energy in the Salem field and at present 11 gas injection wells are in operation on Texas Co.'s pressure maintenance project. Eventually, there will be 70 input wells, Mr. Pardee added, and these will require additional plants which will be located with regard to the subsurface data already obtained. In discussing the production of the field, he pointed out that some few operators were producing their wells to capacity, but many of the wells were pinched in to about 50 bbl. per day. Mr. Pardee added it was impossible not to produce some gas with the oil as it was in solution and was liberated when the oil was brought to the surface.

A stop was made at the discovery well in the pool where the Salem, Illinois, Kiwanis Club has erected a monument. Discussing the selection of the location for this wildcat test, Mr. Pardee said, "This well was located as a result of a scientific study, our producing operations have been and will continue to be based on the same principles. We need only the cooperation of the oil men and satisfactory state regulation."

Mr. Cole asked rather humorously, "You said state regulation?" Mr. Pardee smilingly replied, "I said state legislation," again emphasizing "state." The trip then continued through the field with Mr. Pardee pointing out several items of interest.

The committee was then taken for a visit to the Centralia townsite pool where Ed Shakley of Shell Oil Co., Inc., reviewed the history of the pool and pointed to its possible revival due to finding of saturation in the Devonian-lime test. He also discussed the drilling of wells in the area underlain by an abandoned mine, explaining the casing method which prevented damage to the coal beds.

At dusk the members of the committee were again taken in private cars through the Salem field for a view of the burning gas flares at night. It was on his return that Mr. Cole expressed his opinion of producing practices of the state.

Members of the congressional party were impressed with the wages and facilities provided for the employes and the quality of the equipment and the condition of the producing properties. They seemed to be pleased with the trip. Oil men expressed satisfaction at the results of the tour and the chance to talk with the congressmen. They also seemed impressed by the fairness of the committee members and their grasp of the oil situation.

Octane Race

(Continued from Page 21)

necessary to bring about this difference in results is to reduce the speed of the test motor from 900 r.p.m. to 600; equip it with a different manifold and maintain the air-inlet temperature at 125° F. instead of maintaining a mixture temperature of 300° F. So with these rather simple changes this same motor can be used to make the test by either method and until one or another test method is adopted as a standard by the petroleum industry through some recognized body as the American Society for Testing Methods, there can be no clear understanding of relative motor fuel octane values. And until the standardization comes about it seems only natural that refiners and marketers will use the particular method of test that yields the most favorable results for his gasoline. The method chosen will be influenced by whether the refinery output is highly cracked, whether it is a product of polymerization or alkylation and whether it is the policy of the company to utilize tetraethyl lead in its gasoline. In view of these complications this problem will probably remain with the technologists for a long time. Especially since the finally accepted test method must yield results which are consistent with actual car road performance.

This then brings up another variable, that of the design of the automobile engine, and as long as there are new models coming out every year and in many types and sizes, the job of picking a laboratory knock-test method that will reflect the action of the gasoline in all of these and under all kinds of road conditions, is an ambitious one.

DEATHS

WALTER WINTHROP SCOTT, chief petroleum engineer for the Humble Oil & Refining Co., Houston, Tex., died December 7 after a prolonged illness. He joined the company in the capacity he filled at his death in June 1928. Born in Santa Ana, Calif., May 14, 1893, he was graduated with a B.S. degree from Leland Stanford University in 1916. He entered the service of Shell Oil Co. of California as a geologist in the San Francisco office; later became resident engineer at Coalinga. He went to Houston in 1921 with Pomeroy & Hamilton (later Oil Issues, Inc.) in charge of wildcat drilling. The following year he joined the U. S. Bureau of Mines as a petroleum engineer. In 1924 he went to Borneo for Sarawak Oil Fields, Ltd., Dutch Shell affiliate, and demonstrated new methods of well cementing and assisted in

developing the source of encroaching water. Returning to America in 1925, he became the petroleum engineer in charge of the Southwest division for Pure Oil Co., with headquarters at Tulsa. There he remained until his association with Humble Oil & Refining Co. in 1928.

J. B. ALLEMAN, 63, superintendent of the Texas Pipe Line Co., at Henderson, Tex., died at Houston last week after a brief illness. He had been associated with the company for 35 years, starting as a timekeeper at the South Lake field.

JOHN JACOB HOFF, 80, first Standard Oil Co. representative in France, and for 40 years a resident of Paris, died December 2 at Chateau Peyrieu.

GORDON WATSON, head of Kansas lease and land department for Cities Service Oil Co., died at Wichita, Kans., December 9. He formerly was stationed at Bartlesville, Okla., and had been with the company 12 years. He was a native of Great Yarmouth, England, and once resided in Edmonton, Canada, before coming to the United States in 1920. He served four years in the World War with the Fourth Royal Worcesters of the English Army.

JAMES D. CROSS, 71-year-old pioneer of Rogers County, Oklahoma, drilling contractor and one of the leaders in the early development of the Alluwe oil field, was found dead in his hotel room at Chelsea, December 10.

CARL LEE, 62, Tulsa, veteran employe of Stanolind Pipe Line Co., died last week. After the World War he was employed by Sinclair Pipe Line Co., remaining after it had been purchased by Stanolind.

J. LEONARD WRIGHT of Arp, Tex., engaged in drilling a well at Zachary, La., was killed in an automobile collision during a heavy fog.

D. S. HOWARD, 52, died December 11. With headquarters in Tulsa he developed natural-gas fields in several parts of Oklahoma. He organized and for several years was president of the Muskogee Natural Gas Co. He organized and operated a similar company in Ardmore, Okla.

Arnold Has New Plan For Antitrust Enforcement

By HENRY D. RALPH

WASHINGTON, D. C., Dec. 11.—A detailed plan for permanent and continuous enforcement of antitrust laws to protect consumers against unjustified high prices was proposed to the Temporary National Economic Committee last week by Thurman W. Arnold, assistant attorney general in charge of the antitrust division.

The proposal to make the antitrust laws the machinery for controlling prices was advanced by Mr. Arnold as a substitute for special legislation, which is significant, because it is known that the Department of Justice has been engaged in drafting an antiprofiteering and price-control bill which might be proposed to Congress in case the United States became involved in war. He told the T.N.E.C., of which he is a member, that no drastic and far-reaching price legislation is within the realm of possibility today, and that a long-term plan of this nature would not receive substantial public support.

Instead, he proposed that the T.N.E.C. be made permanent, that there be created in some government department a bureau of industrial economics, and that the antitrust division be given 150 additional employes and be authorized to set up district offices in each state. His plan is for all three of these agencies to work in cooperation, and he estimated the cost at $2,000,000 in addition to present antitrust appropriations.

Objective Described

The objective of this plan is described by Mr. Arnold as "to reestablish consumer sovereignty in this country," by which he means giving consumers ready access to government agencies which are equipped to investigate all complaints of unreasonable prices. He envisions a permanent organization capable of enforcing the antitrust laws through the cooperation and understanding of business, labor, agricultural organizations and consumers, so that enforcement of the antitrust laws will not be a series of crusades but an even, steady, fair, and consistent application of their principles in cooperation with private organizations.

Last year Congress refused Mr. Arnold's request for authority to establish field offices of the antitrust division, but he is now making the request in somewhat different form. A large permanent staff in the field is not necessary, he says, but one or two men in the larger cities to receive complaints and make investigations would be sufficient, if the public knows there are men in reserve who can be called out in the event a local situation gets out of control. The men permanently allocated to each state would act as a clearing house for consumer information and complaints. He wants 50 qualified men, either economists or lawyers with economic training, to be stationed throughout the country to inform themselves regarding local business problems and become acquainted with trade associations, labor organizations, cooperative associations and consumers' organizations. They would not have control over policy, but would function as listening posts and would refer complaints to the antitrust division or to the T.N.E.C. They would be supplemented by 100 investigators who would be assigned to the various state offices as needed. Clear violations of the law would be submitted to grand juries for indictments, but Mr. Arnold suggested a wider use of grand juries to supplement field investigations and declares that the grand jury should become a real investigating device and that its functions should not be confined to obtaining indictments.

The Temporary National Economic Committee should be made a permanent organization, Mr. Arnold feels, and it should be announced that this is the proper tribunal before which to present matters where hearings are sought not strictly pertaining to law violations, and also when it is desired to have consideration given to amending present laws to deal with particular industrial problems. There is need, he says, for a body that can hear cases involving situations which the antitrust laws appear to be inadequate for such treatment as the facts require. An example is the case of obvious overproduction threatening to disorganize an industry and where it is proposed to curtail production; in such a case the T.N.E.C. could examine all possible ways of reducing the surplus and could sanction a curtailment of output if necessary. Conflicting court decisions or threatened litigation might also be cleared up by such a body working with industry.

Should Aid Business

"Business should be provided with at least an opportunity to present its contentions before a regularly organized committee with experience in monopoly problems whenever it feels that the existing law prevents efficient operations," Mr. Arnold told the T.N.E.C., "and what is true of business men is true of consumers also. Such a tribunal with power to investigate facts and make recommendations to Congress in specific cases could exist anywhere in the Government. Nevertheless, it seems to me obvious that the present Temporary National Economic Committee has already established an organization which would be admirable for that purpose."

In outlining the philosophy back of this plan, Mr. Arnold told the T.N.E.C.:

"One thing stands out as a result of these hearings which should be accepted as a political fact. It is that the American people believe in a competitive system based on maximum opportunity for free enterprise, and that they think such a system can be maintained under present laws without fundamental change. They demand an organization which can make present laws effective. Therefore, I propose to present an immediate practical plan of organization to attack the problem of price rigidity by freeing competitive forces. It is a program which could be started in a week's time without further legislation, provided sufficient funds were available.

"This plan or organization has four principle objectives:

"1. To make the voice of consumers an effective force as a counterbalance against pressure groups.

"2. To prevent the unreasonable use by aggressive groups of the necessary privileges of collective action, granted by Congress or the common law to agriculture, labor, and business.

"3. To attack unjustified price increases in one industry at a time in the light of specific problems of each industry.

"4. To provide access to the legislature for such special problems of business, labor or agriculture which demand special treatment or regulation in the light of their particular facts and which cannot be reached under existing laws.

Not General Remedies

"It is not general remedies we need, but the application of a flexible instrument which is capable of taking up one industry at a time. Our proposed plan or organization is based on the premise that such a flexible instrument can be found in the Sherman Act if it is properly coordinated with other activities of government.

"The Sherman Act does not attack unjustified profits of individuals. It concerns itself only with the activities of organized groups. It is effective because production and distribution in this country are operated by organizations and not by individuals. It is flexible because it judges the reasonableness of each organization by its performance.

"The Sherman Act can become an effective instrument of price control if the following essential conditions are met:

"1. A study of business, industry by industry, giving consideration to all pertinent facts relating to each industry.

"2. Investigation of each industry in its entirety, rather than piecemeal.

"3. Easy contact by consumers of regulatory representatives so that complaints of consumers may be articulate and form the basis for proper investigation. Effective consumer representation must be created in determining price policies.

"4. Creation of an agency or tribunal before which hearings may be conducted in situations wherein existing laws are inadequate, or in which conflicting decisions require immediate legislative clarification, or in which enforcement of the laws would result in destructive competition.

"Such a tribunal should not be an agency with unexplored power and without experience in dealing with business problems. It can be set up with the present governmental framework by coordinating the activities of the existing governmental bodies which are especially devoting their attention to the freeing of competitive forces. These organizations are the antitrust division, the Federal Trade Commission and the Temporary National Economic Committee itself. They must be geared to work not only with each other but also with consumers' organizations and trade associations in the industry."

Mid-Continent Tax Group Urges Reduced Spending

By D. H. STORMONT

HOUSTON, Tex., Dec. 11.—Approximately 125 members of the tax committees of the Mid-Continent Oil and Gas Association convened at Houston December 7-8 for their annual joint meeting to hear committee reports on state and local taxation and federal income and excise taxation problems pertinent to the oil industry.

The meeting was featured by an address by Fred A. Eldean of New York, director of the Tax Foundation on "Taxation and the Citizen." Mr. Eldean stressed the need of individual local action by taxpayers as an effective weapon to fight mounting costs of government. Government costs and taxes are America's No. 1 problem, he said.

"The most scientific and efficient remedy toward the reduction of government costs is local action," Mr. Eldean said. "Taxes result in lost markets and reduced income." He urged that taxpayer groups, first seeking the support of topflight business men, begin a realistic, forceful fight against the pressure groups which keep government costs and taxes high.

Illustrating his talk with films of charts and figures, Mr. Eldean related how a group that originated in Westchester County, New York, a year ago had lopped off budgets in the state. The group first attacked municipal budgets, then attacked county spending. The movement grew into a statewide organization and a mass committee of more than 6,000 persons stormed the legislature. As the result, Mr. Eldean said 97 appropriation bills were killed. Petitions signed by thousands of taxpayers played a large part in the movement. He told of similar taxpayer uprisings in Wisconsin, Illinois and Indiana.

Deplores Continued Spending

President J. C. Hunter of Abilene, of the Mid-Continent Oil and Gas Association, said: "If we don't stop some of this spending we can't stop taxation. We need a cooperative effort to stop it, not only in the oil industry but all down the line of citizenship."

He declared there is an almost universal cry for lightening of taxes, and said:

"Taxes are necessary if we are going to have the services of government that we have grown to expect. The questions are: What are we going to have to pay and whether or not the tax is needed; if we have the money to pay and whether we are paying our proportionate share.

"We are confronted with the basic question of whether or not more taxes ought to be levied. That cannot be determined by anything short of finding out whether we are spending more or less than we ought to spend. No country, no government can afford to obligate itself more than it is able to pay."

Miss Darlene G. Anderson, attorney with Phillips Petroleum Co. of Bartlesville, discussed basic court decisions affecting taxation.

Others speaking were H. L. Stone of Humble Oil Refining Co., Houston; John P. Morgan, Sun Oil Co., Dallas; Frank Shriver, Shell Oil Co., Inc., Houston; A. J. Wells, Carter Oil Co., Tulsa; O. C. Cash, Stanolind Oil & Gas Co., Tulsa; E. R. Nall, Phillips Petroleum Co., Bartlesville; John Hammerman Jr., Gulf Oil Corp., Houston; Frank Abbott, Texas Co., Houston; A. D. Nelson, Magnolia Petroleum Co., Dallas, and J. A. McNeese, Continental Oil Co., Ponca City.

The meeting was adjourned after electing officers and selecting Tulsa for the 1940 convention.

D. D. Harley, of Fort Worth, was elevated from general vice chairman to general chairman of the committee on state and local taxation. John Hammerman, Jr., of Houston, was elected general vice chairman. J. A. McNeese was moved from general chairman of the committee on federal income and excise taxation to general chairmanship. H. F. See, of Dallas, was named general vice chairman.

Auto Sales 45 Per Cent Above Those of Last Year

NEW YORK, Dec. 11.—November factory sales of passenger cars and trucks totaled 365,900 units, an increase of 13 per cent over October. For the 11 months sales of 3,259,078 units were 45 per cent higher than the similar period in 1938.

GM To Build Expo Building

GENERAL MOTORS CORP. has contracted for the largest footage of any exhibitor for the May 18 to 25, 1940, International Petroleum Exposition, and becomes the first firm to take space in the section added to the exhibit facilities for the coming Tulsa oil show.

Announcement of the contract, which was negotiated with Max Schachner of the diesel-engine division of General Motors, Cleveland, Ohio, and George Fuller and Carl A. Taugner, of Diesel Power Co. of Tulsa, was made by William B. Way, general manager of the exposition, who said that 15,000 sq. ft. has been reserved. This brings the percentage of available space sold for the 1940 exposition up to 95.2 per cent.

He also announced that General Motors plans to erect a beautiful building of its own on the grounds.

A total of 28 exhibitors now have permanent buildings of their own on the grounds, and Mr. Way believes more than a half dozen others will be constructed before the opening of the 1940 show.

Firms with buildings at present are: Waukesha Motor Co., Bovaird Supply Co., Bethlehem International Supply Co., Frick-Reid Supply Co., Mid-Continent Supply Co., Dowell, Inc., National Supply Co., Petroleum Engineer Publishing Co., Oil Well Supply Co., W. C. Norris Manufacturing Co., Hinderliter Tool Co., International Derrick & Equipment Co., Reed Roller Bit Co., Continental Supply Co., The Oil & Gas Journal, Fred E. Cooper with Allis-Chalmers, Caterpillar Tractor with Athey Truss Wheel Corp., Cooper-Bessemer Corp., George E. Failing Co., Marmon-Herrington Co., Inc., Gaso Pump & Burner Co., International Harvester Co., Clark Brothers Co., Halliburton Oil Well Cementing Co., Buda Co., and Worthington Pump & Machinery Co.

The General Motors contract brings to 24 the number of firms using 2,000 or more square feet for the 1940 exposition. They are: General Motors, 15,000 sq. ft.; Oil Well Supply Co., 11,120; National Supply Co., 9,600; Continental Supply Co., 8,500; International Harvester Co., 6,300; Frick-Reid Supply Co., 5,600; Bethlehem International Supply Co., 4,800; Fred E. Cooper (Allis-Chalmers), 4,800; Caterpillar Tractor Co., 4,800; Wilson Manufacturing Co., 4,500; Mid-Continent Supply Co., 3,600; Lufkin Foundry & Machine Co., 3,500; Dowell, Inc., 3,360; Reed Roller Bit Co., 3,000; Bovaird Supply Co., 2,680; Hinderliter Tool Co., 2,680; Buckeye Traction Ditcher Co., 2,660; Allis-Chalmers (tractor and oldline division), 2,520; Marmon-Herrington Co., Inc., 2,145; Gaso Pump & Burner Co., 2,145; Franks Manufacturing Corp., 2,100; Star Drilling Co., 2,100; W. C. Norris Manufacturing Co., 2,100; and International Derrick & Equipment Co., 2,000.

Preparations of the grounds for the 1940 show have already begun, with a new floor already having been placed in the Texas building. General repairs to all buildings and extension of electric, gas, and water lines will be made before the opening.

Officers and members of the executive committee representing the board of directors who are making preparations for the May 18 to 25, 1940, International Petroleum Exposition in Tulsa: Frank J. Hinderliter, president, Hinderliter Tool Co., vice president of the exposition; C. H. Pape, secretary-treasurer, Selby Oil & Gas Co., treasurer of the oil show; W. G. Skelly, president, Skelly Oil Co. and of the exposition; H. R. Powers, Bethlehem International Supply Co., secretary of the show; Ali G. Heggem, president, Oil Well Improvements Co., vice president of the show; William B. Way, general manager of the exposition; and W. M. Bovaird, president, Bovaird Supply Co., member of the oil-show executive committee. Frank O. Prior, president, Stanolind Oil & Gas Co., and member of the executive committee for the exposition was not present for the picture

International

Rumania . .

September Crude-Oil Production Declined

RUMANIAN petroleum exports during July 1939 amounted to 364,365 metric tons, as against 462,576 metric tons for the corresponding period of 1938. This is a decline of 98,211 metric tons. or 21.23 per cent compared to 1938, due to the European crisis and to uncertain shipping conditions. This is in contrast to increasing exports in the preceding months of 1939. Rumanian petroleum exports the first 6 months of 1939 amounted to 2,231,091 metric tons, as against 2,164,939 metric tons, an increase of 66,152 metric tons, or 3.1 per cent.

This increase in exports was due to heavy demands from abroad and was made despite the declining trend in Rumanian oil production, which in the first 6 months of 1939 amounted to 3,099,789 metric tons (or 23,186,422 bbl. at the average conversion of 7.48 bbl. per ton) as against 3,328,939 metric tons (24,900,464 bbl.) in the corresponding period of 1938. In July 1939 production amounted to 529,113 metric tons, (3,957,765 bbl.) against 563,836 metric tons, (4,217,493 bbl.) in July 1938.

Taking as a basis petroleum exports made during the first 7 months of 1939, at a monthly rate of 370,000 metric tons, total petroleum exports for the year 1939 will amount to 4,440,000 metric tons.

The following table shows Rumanian exports of petroleum products by categories during July 1939 compared to the corresponding period of 1938.

RUMANIAN EXPORTS BY PRODUCTS

Category—	Quantity in metric tons—July 1938	1939	Difference in 1939 in tons	Per cent of total exports in 1939
Gasoline	168,758	165,181	—3,577	45.33
Kerosene and naphtha	80,270	57,826	—22,444	15.87
Gas oil	76,754	57,569	—19,185	15.80
Fuel oil	93,053	50,744	—42,309	13.93
Mineral oil	5,345	4,992	—353	1.37
Asphalt	2,344	2,519	+175	0.69
Paraffin	276	341	+65	0.09
Crude oil	35,776	25,193	—10,583	6.92
Total	462,576	364,365	—98,211	100.00

Approximate conversion factors for refined products are as follows:

	Bbl./ton
Gasoline	8.5
Kerosene	7.75
Gas oil	7.25
Fuel oil	6.66
Crude (Rumanian average)	7.48

The above table shows that the products which accounted chiefly for Rumanian exports of petroleum products were gasoline, kerosene, gas oil. and fuel oil, amounting to 45.33, 15.80, and 13.93 per cent, respectively.

All the principal petroleum products for July 1939 showed declines, except asphalt and paraffin. which showed slight increases. Gasoline declined by 3,577 metric tons compared to last year, kerosene by 22,444 metric tons, gas oil by 19,185 metric tons, and fuel oil by 42,309 metric tons.

Germany had the largest share in Rumanian exports of petroleum products for the month of July 1939, followed by Czechoslovakia and Italy, while for the same month of 1938 Czechoslovakia was fifth and Italy second. Germany took 126,629 metric tons, or 34.75 per cent, Czechoslovakia 45,908 metric tons, or 12.60 per cent, and Italy 41,552 metric tons, or 11.40 per cent.

The products that account chiefly for German purchases were gasoline amounting to 54,245 metric tons, gas oil 28,877 metric tons, fuel oil 17,903 metric tons, and kerosene 16,880 metric tons. Czechoslovak purchases consisted chiefly of gasoline, 25,859 metric tons, and crude oil, 14,944 metric tons, while Italian purchases were chiefly kerosene, 13,693 metric tons, gas oil 9,394 metric tons, fuel oil 8,894 metric tons and gasoline 8,674 metric tons.

German purchases increased by 59,139 metric tons, Czechoslovakia by 19,404 metric tons, while Italian purchases declined by 21,859 metric tons compared to last year. Other considerable declines are shown for French purchases which were 16,247 metric tons less than last year and English purchases which were 41,855 metric tons less. Considerable declines are also shown for other countries and oil used by ships.

The following table shows Rumanian exports of petroleum products by countries of destination during July 1939 compared to the corresponding period of the year before.

EXPORTS BY COUNTRIES

Country of destination—	Quantity in metric tons—July 1938	1939	Difference in 1939 in tons	Per cent of total exports
Germany	67,490	126,629	+59,139	34.75
Czechoslovakia	26,504	45,908	+19,404	12.60
Italy	63,411	41,552	—21,859	11.40
France	35,480	19,233	—16,247	5.28
Hungary	21,004	18,757	—2,247	5.15
Switzerland	9,445	18,635	+9,190	5.11
England	54,454	12,599	—41,855	3.46
Belgium	8,685	12,804	+3,399	3.32
Bulgaria	10,218	10,772	+554	2.96
Yugoslavia	10,768	7,770	—3,068	2.11
Other countries	120,515	29,112	—91,403	7.99
Used by ships	34,602	21,384	—13,218	5.87
Total	462,576	364,365	—98,211	100.00

Note: The former territory of Czechoslovakia still appears in Rumanian statistics for comparative purposes.

According to preliminary figures, Rumanian oil production in September 1939 amounted to 513,950 metric tons (about 3,844,345 bbl.), while the total amount drilled was 50,443 ft.

The following table shows Rumanian oil production and drilling by companies during September 1939.

Company—	September 1939 Production (met. tons*)	Drilling (meters*)
Astra Romana	109,000	4,100
Concordia	67,000	1,800
Romano Americana	65,000	2,600
Steaua Romana	58,000	600
Colombia	53,000	1,650
Unirea	45,000	3,200
Creditul Minier	25,500	.....
Prahova	23,000	750
I.R.D.P.	11,500	1,200
Foraky Romaneasca	7,800	280
Grupul Petrolului Romanesc	7,500	125
Dacia Romano Petroleum Synd.	5,000	.....
Foraj Lemoine	3,200	.....
Petrolifera Romana	2,700	.....
Redeventa	1,950	.....
Socop	800	74
Other companies	28,000	.....
Total	513,950	15,379

*Metric ton = 7.48 bbl.; meter = 3.28 ft.

The production of 513,950 metric tons in September 1939 compares with 534,475 metric tons for the corresponding months of last year, or a decline of 20,525 metric tons. August production is shown to have been 535,000 metric tons (about 4,001,800 bbl.).

Mexico . .

Expropriation Issue Yet Without Solution

DESPITE the Mexican Supreme Court decision upholding President Cardenas' expropriation decree, final solution of the issue is not yet in sight. The first step taken by the Mexican Government after the Supreme Court decision was the issuance of citations to 30 companies by the First Civil Court of the Federal District at Mexico City for the appointment of experts for the statutory appraisal of their properties.

In addition to the 17 United States and British companies specifically mentioned in the expropriation decree of March 18, 1938, citations were handed to 12 other companies. Properties of the 12 companies cited last week have been seized by the government but they were not formally included in the list of the expropriation decree.

The attorney general, in requesting the president of the First Civil Court to cite these companies, admits they were not mentioned in Article 1 of the expropriation decree, but he argued they nevertheless come within the scope of Article 2, which empowers the government to seize whatever properties may be necessary for successful operation of the petroleum industry. The 12 companies sought protection of their interests from the court. They are subsidiaries of Cities Service and Standard Oil Co. of New Jersey.

Companies cited have inferred they will default on the appraisal citation since the court order provides for only one company representative and two for the government. The companies' attitude is that they have nothing to gain, that they would be powerless with inferior numerical representation, and that participation in the appraisal conferences would be tacit admission that expropriation had been accepted. The companies maintain the entire question boils down to whether the Mexican Government can confiscate legally and legitimately acquired property of Americans.

Reports came from Washington last week that Secretary of State Hull would hold a conference with the companies after a complete text of the Mexican Supreme Court decision had been received and studied. Representatives of the companies had not been advised at the end of the week of any plans for a conference and none had been asked to appear in Washington. Secretary Hull's mention of a conference was made in response to a question at a press conference.

Rumors that properties of Gulf Oil Corp. subsidiaries in Mexico had been seized were under investigation by the Department of State, but no official confirmation of this latest action had been received in the United States. Gulf's subsidiaries were the only large company holdings unmolested by the Mexican Government either in the expropriation decree or by subsequent action. The difficulty in reaching Gulf's Mexican subsidiaries rests in the fact that its employes were not members of the labor syndicate which was allegedly unlawfully offended by default in increased wage awards in the early stages of the dispute. Policy of the Mexican Government in blanket application of Article 2 of the expropriation decree might solve the problem of how to reach the Gulf companies.

Natural-Gas News

Natural Gas Consumption Grows Faster Than Users

Sales of natural gas in the United States for all purposes during September totaled 92,700,200,000 cu. ft.; an increase of 9.9 per cent over the same month in 1938. These figures were released last week by the statistical department of the American Gas Association in its November bulletin.

For the first 9 months of this year natural-gas sales totaled 961,333,300,000 cu. ft.; an increase of 10 per cent over 1938.

The largest increase in consumption of natural gas has been in the industrial field, which accounted for 52,965,800,000 cu. ft. of the September consumption, which was a gain of 15.2 per cent. Industrial customers for natural gas totaled 36,100 in September compared to 35,000 a year ago; an increase of 3.1 per cent. Consequently, it is shown that the consumption per industrial customer is expanding at a more rapid rate than the number of users.

Carbon Price Advanced From Low Levels

Carbon-black prices for first-quarter delivery will be advanced ½ cent per pound for uncompressed grades by two leading manufacturers. With current quotations at low levels and demand for the rubber and paint compounding material at a peak, the price changes for the first quarter had been expected.

Columbia Gas to Merge Fourteen Subsidiaries

NEW YORK.—Columbia Gas & Electric Corp., which serves more than 1,500 communities through 33 directly owned subsidiaries, is about to merge 14 of the subsidiaries into three large operating units. The merger will reduce to 22 the number of operating companies, simplifying gas and electric distribution in Ohio, Kentucky, and Pennsylvania.

Edward Reynolds, president, said: "It is something we have been trying to do for the past 10 years but there were many difficulties in the way. It was mentioned in our plan of integration laid before the S.E.C. but not in detail as there still was much to be worked out."

The merger plan, in its three divisions, affects companies with assets of more than $350,000,000 and is one of the largest undertaken under the public utility holding act which seeks the geographical integration of utilities systems.

One step will be the merger of eight companies with combined assets of $101,979,000, serving Pittsburgh and vicinity. They are Manufacturers Light & Heat Co., Cumberland & Alleghany Gas Co., Fayette County Gas Co., Gettysburg Gas Corp., Greensboro Gas Co., Manufacturers Gas Co., Natural Gas Co. of West Virginia, and Pennsylvania Fuel Supply Co.

Corporate action thus far in the Pittsburgh district was the approval voted by directors of Manufacturers Light & Heat Co., the largest of the group which will be the surviving company, Manufacturers Gas Co., Pennsylvania Fuel Supply Co., and Greensboro Gas Co. Stockholders of respective companies will meet December 30.

None of these companies has senior securities and there is a small minority interest only in Manufacturers Light & Heat. With that exception, all the stocks of the four concerns are owned by Columbia Gas. The basis of exchange of stocks is net worth as it appears on the various books.

Manufacturers Light & Heat will have an authorized capital of $37,500,000 of $50 par value stock, and upon conclusion of the merger will have outstanding 581,660 shares. The present directors will continue with T. B. Gregory, chairman and Charles E. Bennett, president.

The merger is subject to the approval of the Pennsylvania Public Utilities Commission. Manufacturers stock will be exchanged share for share. The 16,000 shares of $100 par of Manufacturers Gas Co. will be converted into 34,320 shares of the new company; the 19,560 shares of $50 par of Pennsylvania Fuel into 23,472 shares of the new concern, and the 99,000 shares of $100 par Greensboro Gas Co. into 73,260 shares.

President Reynolds indicated absorption of Cumberland and Allegheny Gas Co., Fayette County Gas Co., Gettysburg Gas Co., and Natural Gas Co. of West Virginia would occur later.

The four companies for which a merger has been arranged serve a large territory in southwestern Pennsylvania with an extension through Bradford to the New York State line. The other two large operating units to be formed by Columbia Gas will be West Virginia, Kentucky, and in Ohio serving Cincinnati and vicinity.

Ohio Court Decides Case For Gas Company

COLUMBUS, Ohio.—A suit seeking $42,000,000 damages because Columbia Gas & Electric Co. allegedly furnished diluted instead of natural gas to 700,000 Ohio consumers, was ruled out in court here on the grounds that one person could not bring a class suit.

In sustaining a demurrer filed by the company, Common Pleas Judge Dana F. Reynolds held that the 700,000 customers who bought the diluted gas would have to bring separate damage suits to recover.

City Atty. John L. Davies of Columbus brought the action on behalf of consumers, contending the consumers had been defrauded of $14,000,000 by the dilution and asking treble damages under an Ohio statute.

South Penn and Clayco Gas Companies to Be Merged

CHARLESTON, W. Va.—A proposal to combine the affiliated Clayco Gas Co. and the South Penn Oil Co. into a new $20,000,000 concern, was submitted to the state Public Service Commission. South Penn is the largest producer of Pennsylvania Grade crude oil and one of the largest producers of natural gas east of the Mississippi River.

Work is nearly completed on the short pipe line from the Tinsley field's gathering system to the railroad terminal at Tinsley

The new concern would be known as South Penn Natural Gas Co. Officials said they did not contemplate any personnel change if the reorganization is approved.

P. H. Curry, of Pittsburgh, president of both concerns, estimated the holdings of South Penn at about $17,500,000. Clayco, which serves consumers in Central West Virginia and the Ohio River district, was valued at $4,000,000 for tax purposes in 1938.

To the new company would go South Penn's 320,800 acres with 5,507 wells producing casing-head gas and oil, 333 natural-gas wells and 237,300 undeveloped acres.

South Penn's gasoline-marketing division would not be affected. The new company would issue 200,000 shares of $100 par value stock.

Refinery Expansion

Additional Facilities Increase Michigan Refinery Capacity

Michigan refining capacity will be increased approximately 5,000 bbl. daily early this month when two new refineries are placed in operation.

Largest of the two, both topping plants, is Imperial Refining Co.'s 3,500-bbl. plant at Grandville, just west of Grand Rapids. Imperial operates a 2,000-bbl. straight-run plant on the east city limits of Grand Rapids, which will be continued in operation.

Wallace Gilroy is president of Imperial, organized about a year ago. B. J. Skinner of Alma, president of Mid-West Refineries, Inc., is one of Imperial's biggest stockholders.

Lakeland Refining Co. of Kalamazoo will place its new 1,500-bbl. capacity topping plant on stream within 10 days, first refinery to be built at Kalamazoo. L. W. Brummitt, formerly of Detroit, is president of Lakeland Refining Co., and also heads Peerless Oil Co. of Detroit, a wholesale oil products distributing company.

The two will bring the number of non-major operating refineries to 26 in Michigan, with rated capacity of 58,800 bbl. daily. The only major-owned refinery in Michigan is at Trenton, near Detroit, a 20,000-bbl. refinery owned by Socony-Vacuum Oil Co., Inc. It takes about 8,000 bbl. of Michigan crude daily but operates chiefly on Mid-Continent crude.

Allegany Elects New Officers

BOLIVAR, N. Y.—Two new officers were elected by the board of directors of the Allegany Refiners, Inc., at the annual stockholders' meeting at the company's offices: E. E. Slingerland of Bradford, Pa., was named treasurer of the corporation in place of W. E. Hammond of Richburg, N. Y. H. W. Walchli, general manager, will act as assistant secretary to fill the vacancy left by the resignation of Harvey L. Chambers.

A. L. Shaner of Bolivar was reelected president of the organzation; D. V. McCarthy, Bolivar, first vice president; C. A. Chipman, of Bolivar, second vice president and secretary, and Hugh Arnold was renamed assistant treasurer.

Fourteen stockholders were present at the meeting and reelected for another year the entire board of directors composed of: A. L. Shaner, R. J. Dermitt, J. C. Bradley, C. A. Chipman, all of Bolivar; J. M. Karl, Olean, N. Y.; W. E. Hammond, Richburg; E. E. Slingerland of Bradford, Pa.; J. C. Messer, B. Moore, Bolivar; and F. H. Tapp, Olean.

Pipe-Line Activity

Contract Awarded for 93-Mile West Texas Pipe Line

FORT WORTH, Tex.—Contract for the construction of a 93-mile pipe line from the Wasson-Bennett field of Gaines and Yoakum counties, West Texas, to the Cosden Petroleum Corp. refinery at Big Spring has been awarded by the newly formed Basin Pipe Line Co. Brown & Root of Austin, Tex., and O. C. Whittaker of Fort Worth received the contract, which calls for 93 miles of 6-in. main line and 15 miles of 4-in. laterals. The line is to be completed by February 15. C. L. McIver, of Fort Worth, is president of the new company, which will have its general office at Big Spring.

Pipe-Line Construction In Illinois Area

The Illinois Pipe Line Co. is laying a 10-in. line from Sandoval to Patoka, in southern Illinois, which will tie into its 12-in. line from Patoka to Vandalia. It will increase its taking capacity from the Lake Centralia-Salem district.

Buckeye Pipe Line Co. is stringing 45 miles of 10-in. line from Lima to Cygnet, in Ohio, and enlarging its capacity.

Panhandle Eastern Lets Contract for Line

In connection with its $3,500,000 construction program recently announced, the Panhandle Eastern Pipe Line Co. has awarded orders for 25,000 tons of 24-in. and 22-in. pipe to the A. O. Smith Corp. of Milwaukee and the National Tube Co. of Pittsburgh, according to announcement by J. D. Creveling, president of Panhandle Eastern.

Contracts for laying the 142 miles of line called for under the building program have been awarded to C. R. Jones & Co. and I. C. Little & Co., both of Dallas, Tex. The contract for pipe couplings has been awarded to the Dresser Manufacturing Co. of Bradford, Pa.

Offer for Columbia Interest In Panhandle Eastern

A syndicate of New York underwriters headed by Glore, Forgan & Co., has made an offer of approximately $15,000,000 to the management of Columbia Gas & Electric Corp. and Columbia Oil & Gasoline Corp. for the companies' stock interest in the Panhandle Eastern Pipe Line Co. The offer covers all the common stock of the Panhandle Eastern owned by Columbia Oil & Gasoline, aggregating 404,326 shares, and also is accompanied by a request to refinance $11,000,000 of outstanding $6 preferred stock of the pipe-line concern.

Columbia Oil is an affiliate of Columbia Gas, and proceedings are pending in the federal District Court in Wilmington, Del., under an action brought by the Department of Justice, to effect a divorcement of the two companies.

Early this year the Department of Justice moved to vacate a consent decree obtained against the Columbia system in January 1936 which prohibited Columbia Gas and Columbia Oil from "exercising or attempting to exercise any domination or control over Panhandle Eastern" in violation of the antitrust laws. Since that time the Columbia companies have taken steps to end their affiliation and, on June 20 last, filed with the court a plan contemplating divestment. The plan, however, is being fought by minority stockholders and the case is now being heard in the Wilmington court, the proceedings having been combined with the complaint brought by the Department of Justice.

The bid of $37 a share for Columbia Oil's common stock interest in Panhandle Eastern projects a new development into the proceedings since, under the divestment plan filed in June, it was not proposed that Columbia Oil give up its controlling interest in the Panhandle situation. Under the plan, all the physical properties of Columbia Oil would be reabsorbed into the Columbia Gas system and Columbia Oil would retain, as its sole remaining asset, its interest in Panhandle Eastern. In return, Columbia Gas would cancel and surrender to Columbia Oil 400,000 shares of the latter's preferred stock. Also, it was proposed to have Columbia Oil reduce its $21,000,000 debenture debt to Columbia Gas by $10,000,000 through the sale in the open market of the Panhandle Eastern preferred stock owned by Columbia Oil.

Last year, when the divestment proceedings were being pressed by the Department of Justice, Glore, Forgan & Co. and other investment banking houses made an original bid of $25 a share for the Panhandle Eastern common stock and later raised the bid to $27, representing an aggregate price of about $10,200,000. What effect the bid of $37 a share will have is conjectural since, an official of Columbia Gas & Electric pointed out, the divestment plan as presented is still awaiting decision.

There are 807,367 shares of Panhandle Eastern common and $11,000,000 of 6 per cent preferred stock outstanding. The Missouri-Kansas Pipe Line Co., which has fought the Columbia companies for several years over control of Panhandle Eastern, owns 339,275 shares of common, or 41.9 per cent.

Explosion Rips 32 Miles of Shell Pipe Line in Texas

ST. LOUIS, Mo., Dec. 12.—"We have just been informed that approximately 32 miles of Shell Pipe Line Corp.'s 10-in. crude-oil line from McCamey, Tex., to Cushing, Okla., was partially destroyed at 7:50 a.m. today by a series of explosions," said R. P. Bascom, president of Shell Pipe Line Corp.

"It was impossible to determine the extent of the damage, how long the line would be out of operation, or the precise cause of the accident until a careful checkup has been made. Work was started immediately to ascertain the cause and extent of damage, and repair work will be under way as soon as the report is completed.

"The line, which crosses the Red River, passes through long stretches of rough, grazing country, where the arid condition has set up electrolysis in the soil which resulted in leakage of oil through tiny pin holes in the pipe line. However, because of the baked soil, the oil failed to come to the surface where detection would have been a simple matter, but channeled its way out through cracks and was often found as far as one-fourth of a mile removed from the pipe line itself.

"A search was started last week to check these leaks and prevent further waste of oil. Starting Friday at Baylor, Tex., air was forced into the pipe line between movable plugs so that, as the air passed through the line, it would escape through the pin holes and be discovered. To further insure detection, the air was odorized. Eight such blind leaks were detected and repaired between the Baylor and Archer pump stations. The pressure employed was approximately 100 lb. Normally, about 700 lb. of pressure are employed in the line when it is in regular use to move oil.

"At 2 p.m. yesterday oil was started in the line at Baylor to move the air column ahead from Archer. After the front end of the column had moved toward Ryan, a distance of about 32 miles, where the line crosses the Red River, according to H. M. Hovis, division superintendent, who on foot was checking the line, the front plug apparently stopped and then, either simultaneously or immediately thereafter, there was an explosion followed by a series of other explosions running back 32 miles to Archer, which, as he said, resembled a string of Chinese firecrackers going off. The test procedure being followed is common practice in testing oil lines for pin-hole leaks.

"At Jolly, Tex., which is northeast of Archer and not far from Wichita Falls, where the pipe line crosses under a highway, at the instant of the explosion, we understand, a motorist was passing immediately over the pipe line. He, we are told, was injured by the blast and rushed to a hospital in Wichita Falls, where it was found that his injuries were of slight consequence and he was discharged from the hospital.

"We are doing everything possible to ascertain the cause and extent of the unfortunate accident, and, while the transportation of crude oil from McCamey to Cushing by pipe line will be delayed for at least a week until repairs are effected, it will not hamper the operation of our refineries at Wood River and East Chicago."

Natural Gasoline

Phillips Contemplates Building Plant at Jal, New Mexico

Phillips Petroleum Co., according to a recent report, is preparing to build a $1,500,000 natural-gasoline plant near Jal, in southeastern New Mexico.

Hanlon-Buchanan Considers Project in Hull-Silk Area

Hanlon-Buchanan, Inc., Tulsa, contemplates the construction of a natural-gasoline plant in the Hull-Silk area of Archer County, North Texas.

Construction Started on Large Southeast New Mexico Plant

FORT WORTH, Tex.—Construction of El Paso Natural Gas Co.'s 50,000-gal. daily capacity natural-gasoline plant north of Jal in Southeast New Mexico was started last week. Facilities for extracting butane and propane fractions will be included in the plant, which will be of the absorption type. Estimated cost of the new plant is about $1,000,000.

Lone Star and Trinity Will Build Recycling Plant

Bids have been asked by the Lone Star Gas Co. and the Trinity Gas Corp., partnership in the development of gas-distillate acreage in the Grapeland area of northern Houston County, southeast Texas, for construction of a gas-recycling plant for their block to serve the unitized acreage. The companies have completed three gas-distillate producers as provided in their first unit contract and are preparing to start on the second unit, it is reported.

Original plans called for the plant to be of 30,000,000 cu. ft. capacity, but a large plant may be constructed to take care of additional acreage that may be unitized.

Service on New Fields

Sharon Pool, Scurry County, Texas

Compiled by The Oil and Gas Journal

GENERAL INFORMATION

Approved name:

Sharon pool.

Geographic location:

Block 97, H.&T.C. Survey, Scurry County, Texas, on the extreme east edge of the West Texas Permian basin.

Principal cities and towns near field:

Snyder and Colorado, Tex. The town of Snyder with a population of 3,000, county seat, providing adequate living conditions, lies 19 miles northwest of the field. Colorado lies 25 miles southeast and has a population of 5,000.

Location of supply houses:

Supply houses mainly serving the field are located at Big Spring about 40 miles southwest of the field and in Howard County.

Railroads serving the area:

The Santa Fe railroad runs through the town of Snyder while the Texas Pacific railroad runs through Colorado.

Character of roads:

Driving in the field is greatly hampered by the sandy nature of the terrain. U. S. Highway 80 passes through Colorado and Westbrook to the south of the field some 15 miles, with State Highway 101 from Colorado to Snyder running about 12 miles east of the field. Improved dirt roads connect the field to these two highways.

Trucking and hauling facilities:

Adequate trucking and hauling facilities are available at either Snyder, Colorado or Big Spring.

Hotel and other accommodations:

Comfortable hotel accommodations are available in both Snyder and Colorado while Big Spring has two large hotels.

Electric power and gas companies:

There is electricity in the small town of Ira, but at the present time the service does not extend into the field.

DEVELOPMENT

The discovery well in the field was Coffield & Guthrie, Inc. of Corsicana, Tex. No. 1 Spears & Brownfield, located in the NW cor. of SW¼ Section 130, Block 97, H.&T.C. Survey. The well was completed in October 1938 for a potential of 89 bbl. daily, to date the smallest well in the field. It was completed around a string of drilling tools which were lost in the hole, thus preventing the proper cleaning out of the well. In the drilling of the discovery well, air encountered at about 1,100 ft. was used for power in drilling from that depth to 3,400 ft., total depth. At 3,400 ft. it was plugged back to 2,500 ft. and in that process the tools were lost in the hole. Production is from a 200-ft. section of broken pay in the San Angelo formation.

Greatest development has been to the north and west of the discovery well. About 1¼ miles north and slightly west of the north edge of the field is Robinson Oil Co.'s No. 1 A. C. Martin, a 70-bbl. well producing from a depth of 3,500 ft. or some 1,200 ft. below the regular pay section of the field. This well is not considered in the Sharon pool but rather is a separate field on the edge of the anticlinal structure. No drilling other than the one well has been done in this area.

Completions to date:

There are 24 producing wells in the field.

Present drilling operations:

Wells drilling, 9; locations, 7.

Casing program:

When drilling with spudder usually two joints of 10-in. surface casing are set and then at about 600 ft. an 8-in. air string is cemented. The 7-in. oil string is set at 2,160-2,200 ft. The 10-in. and 8-in. strings are bradenheaded together and air for power is taken from between the two strings.

Completion practices:

These wells are shot with from 500 to 1,000 qt., cleaned out and liners are set in the holes. All wells have been completed as pumpers.

Speed in drilling:

The average drilling time from start to completion is about 45 days.

Drilling problems:

No serious drilling problems are encountered as the formation stands up good with either rotary or cable tools.

PRODUCING PRACTICES

The usual practice is to set 2-in. tubing with insert pump then use air head for pumping, taking the necessary air from the same well and reducing the pressure to less than 100 lb. After these wells are cleaned out and settle down they give no further cause for attention or adjustment. The air pressure is steady and consistent.

Pressures:

There is very little gas pressure in the field. The air that is found at around 1,100 ft. has a pressure of about 350 lb. when closed in.

GENERAL DATA

Pipe lines:

Coffield & Guthrie, Inc., operates the gathering system in the field. The oil is gathered and sold to the Col-Tex Refining Co. refinery at Colorado, delivery being made to that refinery's tank farm at Westbrook about 15 miles south of the field. A pipe line has been proposed directly from the field to the refinery.

Present daily average production:

The field has a daily allowable of 540 bbl., based on a 35-bbl. per-well allowable.

Spacing pattern:

Wells are located on 10-acre units and are spaced 660 ft. from producing wells or possible locations and 330 ft. from lease or property lines.

Present owners of producing leases:

	No. of wells
Coffield & Guthrie, Inc., Corsicana, Tex.	4
W. E. Callahan, Dallas, Tex.	2
Ordovician Oil Co., San Antonio, Tex.	4
H. C. Wheeler, Dallas, Tex.	2
J. B. Stoddard, Dallas, Tex.	3
Robinson Brothers, Miami, Okla.	2
Magnolia Petroleum Co., Dallas, Tex.	2
D. & R. Oil Co., Miami, Okla.	3
Bristow & Cantrell	1
Helmerich & Payne	1
Total	24

General geology:

The field is located on a northwest-southeast anticlinal nosing. Production is from approximately a 200-ft. section in the San Angelo formation, this being a local name and applying to a specific lime stratum of the Permian age. The field is on the extreme east edge of the Permian basin. The Permian formation, from which production is obtained in this field as well as farther West Texas fields, is seen to outcrop only some 50 miles east of the Sharon pool. The Sharon pool was first thought to be a northwest extension to the old Ira field; however, a definite saddle has been found to exist between the anticlinal structures of the two fields. Production, being from a none too permeable lime, is expected to be

long lived but not flush. Dry holes tend to definine the field's limits on the south and on the extreme north.

Proven area:

At the present time there are about 1,200 acres proven in the field and about 500 acres semiproven, making a total of 1,700 acres.

Undrilled locations in proven area:

There are about 96 proven undrilled locations in the field.

Estimated rate of drilling over next 12 months:

Based on present information there will be about six wells completed per month for the next 12 months in the field.

DRILLING

Type of drilling equipment used:

Spudders are mainly used; however, some operators are using combination rigs, using the rotary to set pipe at 2,200 ft. and drilling in with the spudder. With the spudder the air encountered at 1,100-1,200 ft. can be used for power thus eliminating fuel costs.

Water in the field:

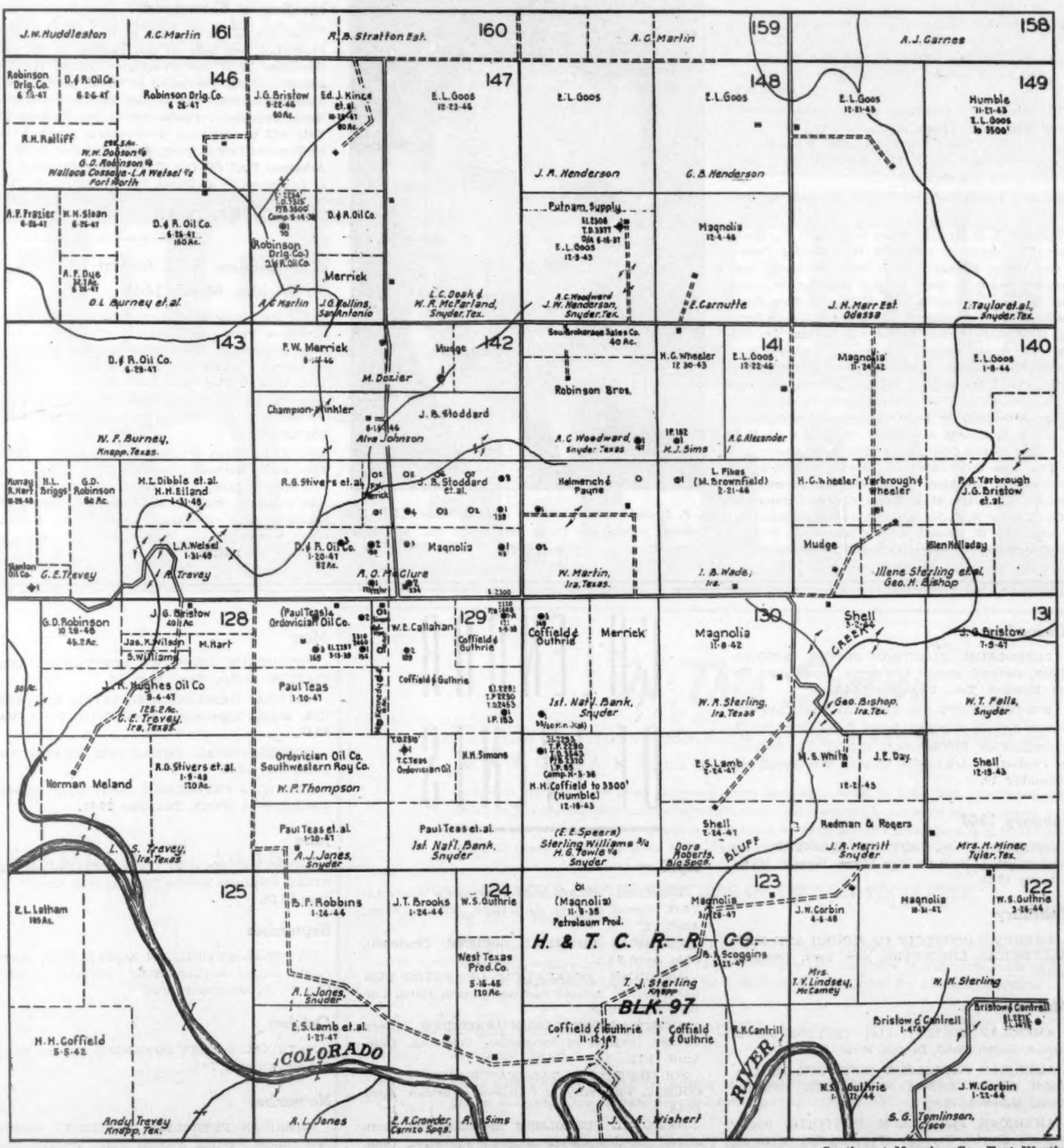
There is an adequate supply of water at 300 ft. for drilling purposes but there is no good drinking water in the area.

Type bits used:

When rotary is used ordinary rock bits are used from surface to bottom of hole.

CRUDE-OIL ANALYSIS

The oil is 28 gravity, asphalt base and has a low sulfur content and a high ratio of gasoline. No laboratory analysis has been made of the crude.



Sharon pool, Scurry County, Texas Southwest Mapping Co., Fort Worth

PROGRAMS AND MEETINGS

East Texas A.P.I. Chapter Concludes 1939 Meetings

KILGORE, Tex.—The last meeting of this year for the East Texas chapter of the American Petroleum Institute, Division of Production, was held in Kilgore December 12.

M. L. Mayfield, engineer for Cities Service Oil Co. at Gladewater, presented a paper entitled "Pumping Up-the-Hole, or the Effect of Reducing Pump Submergence in West-Side Pumping Wells—East Texas Field."

The meeting was concluded with a vaudeville show arranged by R. D. Risser, of Shell Oil Co., Inc., chairman of the East Texas chapter for 1939. Preceding the meeting at the high school, the usual A.P.I. dinner party was held at the Kilgore Hotel.

The new officers of the chapter, elected for 1940, follow:

Chairman, J. P. Straight, Cities Service Oil Co., Gladewater. Vice chairmen, Robert M. Bass, Sinclair Prairie Oil Co., Troup; Murray C. Sells, Sells Petroleum, Inc., Longview; and B. E. Moir, Atlantic Refining Co., Longview. Secretary-treasurer, E. B. Miller, Jr., Tide Water Associated Oil Co., Kilgore. Assistant secretary-treasurer, D. M. Kerr, Lufkin Foundry & Machine Co., Kilgore.

Advisory committe: R. D. Risser (chairman), Shell Oil Co., Inc., Kilgore; L. P. O'Neill, General American Oil Co., Gladewater; J. W. Steele, Federal Tender Board, Kilgore; Albert Carter, Railroad Commission of Texas, Kilgore; M. L. Brown, Sun Oil Co., Kilgore; C. D. Hubbard, Weaver-Crim Corp., Laird Hill; N. G. Moore, Empire Pipe Line Co., Gladewater; Harvey Lee, Magnolia Petroleum Co., Greggton; W. H. Wiginton, Atlantic Refining Co., Longview; M. E. Zoller, Central Commercial Oil Co., Kilgore; N. N. Jones, Humble Oil & Refining Co., Overton; John W. Russell, drilling contractor, Kilgore; R. J. Daugherty, Arcadia Refining Co., Overton; R. W. Stole, Arkansas Fuel Oil Co., Longview; J. E. Springer, Tide Water Associated Oil Co., Kilgore; C. E. Taber, C. L. McMahon, Inc., Tyler; R. J. Ranck, Jackson, Wise & Snedden, Inc., Tyler; C. C. Sloan, Ohio Oil Co., Henderson; C. E. Collins, Texas Co., Turnertown; H. P. Ross, Ross Construction Co., Longview; P. W. Morgan, Premier Refining Co., Longview; M. A. Finney, Pure Oil Co., Van; W. S. Morris, East Texas Engineering Association, Kilgore.

Program committee: John E. Murrell, Shell Oil Co., Inc., Kilgore; F. A. Schell, Jr., Stanolind Oil & Gas Co., Greggton; F. J. Mikeska, Gulf Oil Corp., Kilgore; J. C. Randolph, National Supply Co., Kilgore.

Membership committee: Phil Montgomery, Halliburton Oil Well Cementing Co., Kilgore; R. T. Lewis, Hercules Motors, Kilgore; W. H. Bowden, construction contractor, Tyler; Frank Thyng, Oil Well Supply Co., Kilgore; Fred Frasher, Fox Rig & Lumber Co., Kilgore.

J. P. Straight, 1940 chairman of East Texas A.P.I. Mr. Straight is with the Cities Service Oil Co., at Gladewater, Tex.

Program for Ark-La-Tex Chapter Meeting at Shreveport

The Ark-La-Tex chapter of the A.P.I. Division of Production will hold its last meeting of the year on December 19 at the Washington Youree Hotel. This dinner meeting, convening at 7, will be followed by a technical session. The subject for discussion is "Artificial Methods of Production in the Rodessa Field." This will be discussed from several angles in papers by Bernard Down, Union Producing Co.; R. M. Sloan, Arkansas Fuel Oil Co.; T. H. Gibbs, Standard Oil Co. of Louisiana; F. E. Steele, Phillips Petroleum Co.; and W. B. Powers, Magnolia Petroleum Co. Entertainment in keeping with the holiday season will be provided.

Mid-Continent A.P.I. District At Wichita, March 14-15

The Mid-Continent district of the Production Division, American Petroleum Institute, will hold its 1940 annual meeting at Wichita, Kans., March 14-15, C. H. Keplinger, district chairman, announces. Talks will deal with drilling problems with cable tools, slim-hole operations, oil-field fluids, repressuring and public relations, the latter a key topic for the chapters during 1940.

T. J. Hamilton, Phillips Petroleum Co., Oklahoma City; H. V. Mathews, Stanolind Oil & Gas Co., Tampa, and Henry Miller, Lario Oil & Gas Co., Wichita, are vice chairmen, with H. R. Goodpaster, Kerlyn Oil Co., Oklahoma City, secretary-treasurer. N. M. Hutchinson, Cities Service Oil Co., Bartlesville, is chairman of the advisory committee.

CALENDAR OF EVENTS

December

PETROLEUM ELECTRIC POWER ASSOCIATION, eleventh annual conference, Texas State Hotel, Houston, Tex., December 14-15.

MID-CONTINENT OIL AND GAS ASSOCIATION, annual meeting of general board, Tulsa, December 18.

AMERICAN PETROLEUM INSTITUTE, Division of Production, Ark-La-Tex chapter, Shreveport, La., December 19.

January 1940

SOCIETY OF AUTOMOTIVE ENGINEERS, annual meeting, Book-Cadillac Hotel, Detroit, Mich., January 15-19.

February

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, New York, February 12-15.

March

AMERICAN SOCIETY FOR TESTING MATERIALS, Statler Hotel, Detroit, Mich., March 4-5.

AMERICAN PETROLEUM INSTITUTE, Mid-Continent district, Division of Production, Wichita, Kans., March 14-15.

AMERICAN PETROLEUM INSTITUTE, Southwestern district, Division of Production, Houston, Tex., March 28-29.

April

WESTERN PETROLEUM REFINERS ASSOCIATION, annual meeting, Allis Hotel, Wichita, Kans., April 1-2.

AMERICAN CHEMICAL SOCIETY, Cincinnati, Ohio, April 8-12.

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, annual meeting, Stevens Hotel, Chicago, April 10-12.

AMERICAN PETROLEUM INSTITUTE, eastern district, Division of Production, Columbus, Ohio, April 11-12.

SOUTHWESTERN GAS-MEASUREMENT SHORT COURSE, University of Oklahoma, Norman, April 16-18.

NATIONAL PETROLEUM ASSOCIATION, semi-annual meeting, Cleveland Hotel, Cleveland, Ohio, April 18-19.

May

PETROLEUM INDUSTRY ELECTRICAL ASSOCIATION, Dallas, Tex., May 1-3.

NATURAL GASOLINE ASSOCIATION OF AMERICA, annual convention, Hotel Tulsa, Tulsa, May 15-17.

INTERNATIONAL PETROLEUM EXPOSITION, Tulsa, May 18-25.

AMERICAN PETROLEUM INSTITUTE, midyear meeting, Fort Worth, Tex. May 27-31.

June

AMERICAN SOCIETY FOR TESTING MATERIALS, Chalfonte-Haddon Hall, Atlantic City, N. J., June 24-28.

September

NATIONAL PETROLEUM ASSOCIATION, thirty-eighth annual meeting, Hotel Traymore, Atlantic City, N. J., September 18-20.

October

NATIONAL SAFETY CONGRESS, Stevens Hotel, Chicago, October 7-11.

November

AMERICAN PETROLEUM INSTITUTE, twenty-first annual meeting, Stevens Hotel, Chicago. Nov. 11-15.

Ample and movable power in the form of tractors has become a prime requisite in the laying of modern pipe lines. Here is shown a typical tractor clearing the surface of rocks preparatory to laying a section of the 492-mile crude-oil pipe line from Fort Laramie, Wyo., to the plant of the Utah Refining Co., at Salt Lake City. The line has been completed and the first deliveries of crude are being made. The fact is mentioned here because it reveals the speed with which large pipe-line jobs may be accomplished when modern engineering practices are supplied with effective movable power

ENGINEERING & OPERATING

DECEMBER 14, 1939

In This Section

ALKYLATION AND ITS INFLUENCE ON THE USE OF NATURAL GASOLINE
By E. W. Gard, A. L. Blount, and K. Korpi ..... Page 42

California refiners have been supplying large quantities of 86 to 100-octane aviation gasoline. This group is favored with crude oils containing fractions which are naturally high in octane value. The effect of utilizing natural gasoline as a charging stock for alkylation units is a recent means found to produce more of these fuels. The procedure and economic effects are discussed here.

PUMPING WELLS ON THE WEST SIDE OF THE EAST TEXAS FIELD
By M. L. Mayfield ..... Page 44

In applying engineering methods to the solution of pumping problems on the west side of the East Texas field, studies have been made of the producing characteristics of individual wells in order to determine requirements for the installation of equipment for efficient operation.

HIGHWAY CROSSINGS FOR PIPE LINES
By Paul Reed ..... Page 59

Three methods were utilized for making road crossings in the construction of a major pipe-line project this year. One of these departed from hand methods by making use of power equipment.

METALS USED IN THE PETROLEUM INDUSTRY—By W. L. Nelson ..... Page 53

OPERATING IDEAS ..... Page 56

SAFETY ..... Page 68

QUESTIONS ON TECHNOLOGY—By C. K. Francis, Ph.D. ..... Page 69

Alkylation and Unitization of

By EARLE W. GARD, A. L. BLOUNT and K. KORPI
Union Oil Co.

PART 1

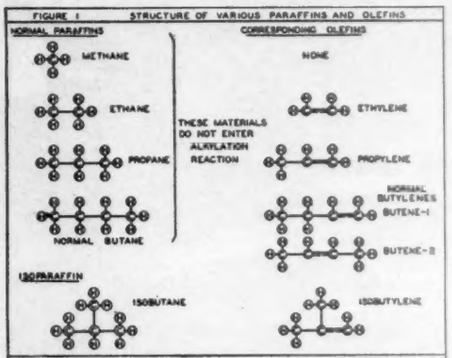
BEFORE describing our work and the phases of it that may be of interest to the members of the California Natural Gasoline Association, it appears advisable to define alkylation and to describe in general terms what is accomplished by alkylation.

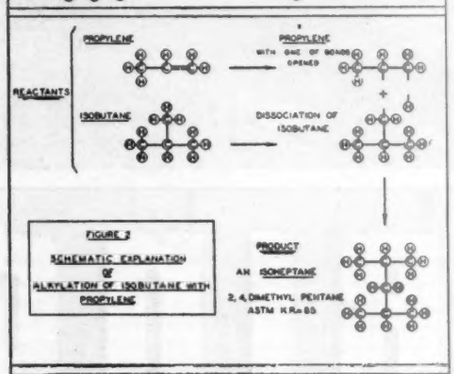
Alkylation is a process by which one or more alkyl groups are introduced into a compound. We shall define these terms by means of diagrams later. In our particular case, alkylation may be rather narrowly defined as the addition of an olefin to an isoparaffin to form an isoparaffin of higher molecular weight; in fact, one having a molecular weight equal to the sum of molecular weights of the reacting olefin and isoparaffin.

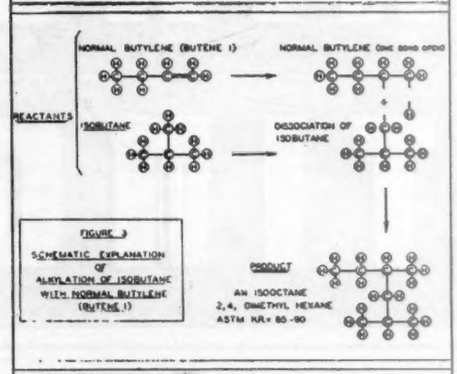
It is difficult to visualize the significance of these technical definitions; therefore, we have prepared a number of figures showing the structure of the materials that are used in the alkylation process and the probable course of the reaction, as well as the principal products of the reaction in each case.

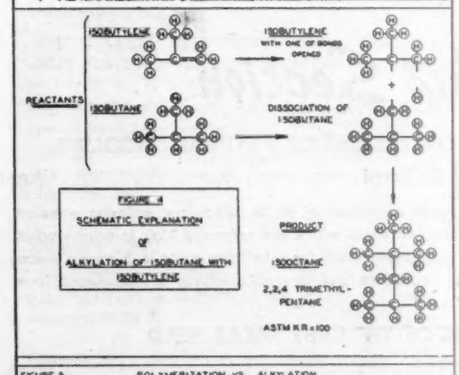
Fig. 1 shows the structures of the paraffins, isoparaffins and corresponding olefins that we shall mention in this paper. It can be seen that the normal paraffins are essentially molecules composed of carbon chains with the requisite amount of hydrogen to provide a saturated molecule in every case. The normal paraffins do not enter the alkylation reaction and they are presented here merely for the sake of comparison. The isoparaffin is distinctive from the normal paraffin in that it does not contain the straight carbon chain, by the fact that three and even four carbons are joined with one carbon, whereas in the normal paraffins no more than two carbons are attached to another carbon atom. The isoparaffins which are of particular importance in alkylation contain a distinctive hydrogen known as the tertiary hydrogen. This hydrogen is the hydrogen attached to the carbon atom which is in turn attached to three other carbon atoms. Such a structure does not exist in the normal paraffins. Thermodynamic calculations indicate that the normal paraffins, as well as the isoparaffins, should enter the alkylation reaction, but as yet no catalyst for such a reaction has been found. Therefore, we are primarily concerned at this time with the isoparaffin and its structure and

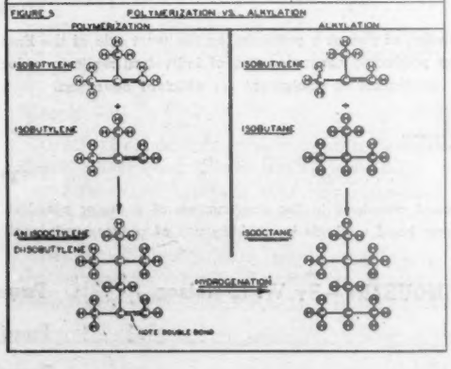
C.N.G.A. — Presented before Fall meeting of the California Natural Gasoline Association, in Los Angeles, Nov. 17

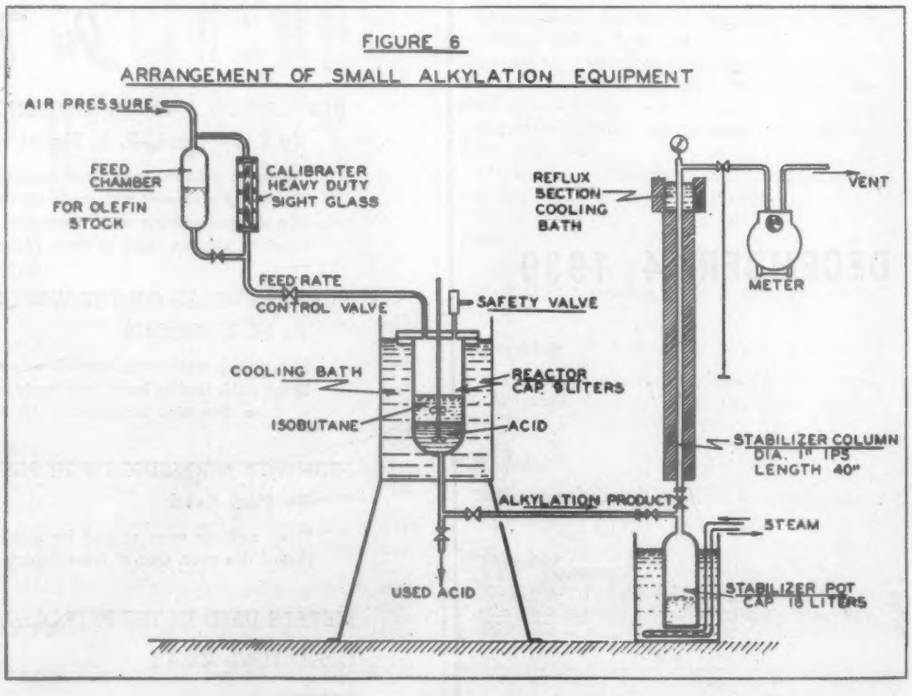












Its Influence on the Natural Gasoline

not the normal paraffin. The other reacting materials in the alkylation reaction are the olefins which have structures similar to those shown in Fig. 1. It is seen that the olefin has essentially the same structure as the corresponding paraffin except that it has two fewer hydrogens in the molecule and the two bonds or valences released by the removal of the hydrogens go to form one of the bonds of the double bond of the structure. This double bond is of importance since it is capable of reopening, and the two bonds thus reformed are the points to which the fragments of the isoparaffin molecule are attached. In order to help visualize what we have just said, a number of other figures are introduced.

Fig. 2 is a schematic explanation of the alkylation of isobutane with propylene, the simplest of the cases which we shall consider. We have already stated that the isoparaffin and the olefin are the two reacting materials in the alkylation process. In Fig. 2 these are exemplified by isobutane, the simplest of the isoparaffins, and propylene. In this schematic arrangement we have shown the two reactants passing through a hypothetical stage during which one of the bonds of the double bond in propylene opens to produce two points at which attachment can be made, and during which isobutane dissociates into two fragments: (1) A hydrogen fragment or radical, and (2) an isobutyl fragment or radical. The next step is the addition of these two fragments to the two valences formed by the opening of one of the bonds in the double bond of propylene. The product of this addition is shown in the lower right-hand corner of Fig. 2 and is an isoheptane; namely, 2,4 dimethyl pentane which has an A.S.T.M. knock rating of approximately 85. We see, therefore, that isobutane, the isoparaffin, adds onto propylene, or propylene adds onto it, to form a larger isoparaffin which has a molecular weight equal to the sum of molecular weights of the two reacting materials, which was previously given as a definition of alkylation.

Fig. 3 is similar to the previous figure except normal butylene (butene-1) is used in place of propylene in the reaction. As in the previous case these two materials may be assumed to pass through stages during which one of the bonds in the double bond of normal butylene opens and isobutane dissociates into two fragments as described before. The addition of the isobutane fragments to the valences produced by the opening of the double bond of the olefin produces the product shown in the lower right-hand corner, which in this case is an isooctane. This is not the isooctane of commerce, but one of the other isomeric isooctanes.

Fig. 4 is similar to the other two figures previously described except in this case isobutylene is the olefin instead of normal butylene or propylene. The product is isooctane; that is, it is the isooctane which is the reference fuel used in determining the knock rating of gasolines. This is the only one of the three reactions considered in the last three figures that can theoretically produce regular isooctane directly.

We have shown by means of the last three figures that alkylation is a process by which an olefin as exemplified by propylene, normal butylene, and isobutylene can be made to add onto an isoparaffin like isobutane to form higher boiling isoparaffins.

It should be understood that the alkylation reaction is not as simple as it may appear to be from the reactions shown in the last three figures. In every case substantial amounts of higher and lower molecular weight and different paraffins than the one indicated in each case are obtained. The formation of these by-products is due undoubtedly to secondary reactions which result in breakdowns of the first product and buildup of the fragments into other new paraffins and to rearrangement of the first products. It is the opinion of some investigators that alkylation is not a satisfactory designation for the reaction that we are considering and that condensation might be a better one. We are not going to discuss this aspect of the situation further but are going to leave it with the statement that the principal products of the reaction between the three olefins and isobutane are those shown in Figs. 2, 3, and 4.

It will be observed that we have used isobutane alone as a typical isoparaffin. This does not mean that other isoparaffins like isopentane and isoheptane cannot be used in a similar manner. The higher isoparaffins, however, are valuable components of high-knock-rating motor fuels and very little can be gained, except in special cases,

(Continued on Page 51)

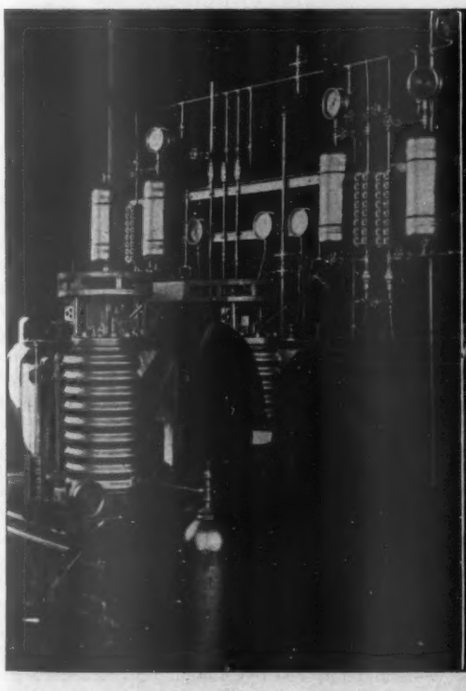


Fig. 7

Fig. 8

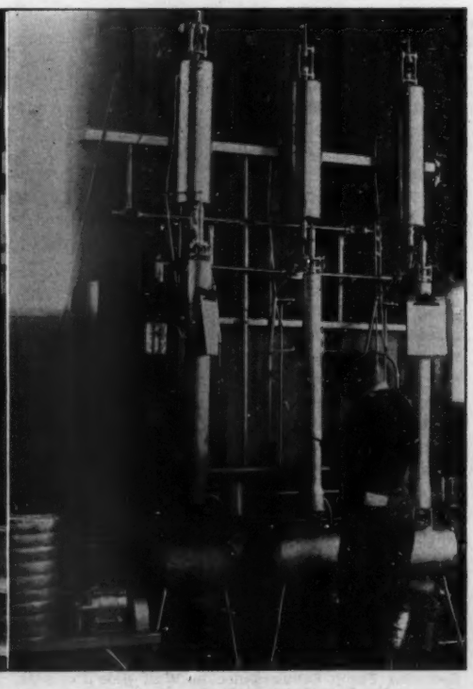


Fig. 9

Recent Development in Pumping Wells in the East Texas Field

IN TWO PARTS—PART 1

By M. L. MAYFIELD
Cities Service Oil Co.

M. L. MAYFIELD

A.P.I.—Presented before the East Texas Chapter, American Petroleum Institute, at Kilgore, Tex., December 12, 1939.

THE question of pumping wells in the East Texas field has, in the past, on two occasions, been discussed before this chapter. George L. Nye and E. B. Miller, Jr., prepared and delivered in May 1937, a paper entitled "The Present and Future Pumping in the East Texas Field." They showed the physical characteristics of the field are such that for the purpose of discussion, the East Texas field divides itself into three major parts: The east side, the middle or fairway, and the west side. Then Robert M. Bass, in October 1939, prepared a paper entitled "Observation of Pumping Problems and Equipment in the East Texas Field," which discussed the operating problems and the equipment by sections of the field.

This paper has been prepared from data obtained on Cities Service Oil Co. west-side wells only and the results indicated hereinafter apply only to west-side properties.

For sometime the dynamometer load-readings recorded the tendency of west-side pumping wells to flow intermittently while being serviced, and the high-volumetric efficiencies of practically all of them gave reason to believe the high-working fluid levels were the rule rather than the exception. From bottom-hole pressure information on west-side wells, it has been well established that the static fluid levels have been well maintained, and this fact, together with their original capacity for producing large volumes of oil, indicated that under proration restrictions and the slower producing rates, in either natural or artificial lift, these high levels could be utilized for decreasing the pump submergence.

A number of tests which included fluid-level determinations, dynamometer recordings, both surface and subsurface, were made on typical west-side pumping wells to determine the well loads and power requirements under conventional pumping from bottom as compared to decreasing the pump submergence. Fluid-level determinations were made on 22 individual wells on five different leases and dynamometer recordings on four wells under conventional and various pump submergence. The amount of power required under the conventional and decreased submergence pumping is also included.

This study is intended to offer evidence that polish-rod loads and power requirements can be materially reduced without sacrificing production, if the individual well analysis indicates a high-working fluid-level, good sand permeability, and a productivity index exists which will permit the successful application of the pumping principle described.

This productivity index* is defined as the barrels per day of gross fluid produced per pound per square inch pressure drop at a specified subsurface datum. In the majority of normal west-side wells, that is, where no remedial or plug-back work has been performed, this factor is usually high, meaning that the formation permeability, pressure, and penetration is of sufficient magnitude to permit withdrawal rates in the range of 10 to 40 bbl. per hour without causing much of a draw-down.

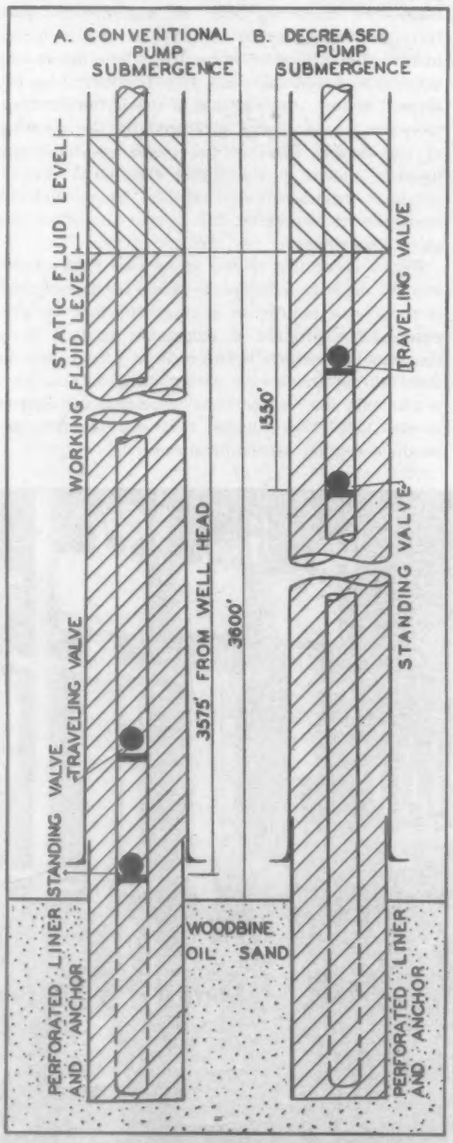


Fig. 1—Diagram showing change in pump location from conventional method

The above information is essential for applying the principle of reducing the pump submergence and should be obtained by use of the recording pressure gage, or by sonic-wave determination. These data can then be analyzed, and from the definite and inferred results, conclusions pertinent to the particular well will enable an operator to design or purchase the suitable producing equipment.

Determination of Loads

In January 1939, permission was granted by the Texas Railroad Commission to conduct tests on a typical west-side well and the initial well was equipped as shown in Fig. 1. Since there is a Railroad Commission rule requiring each well to be tubed to the top of the Woodbine sand with the pump perforations opposite or near the formation, the only essential change was to move the working barrel and pump up the hole with the well still being tubed to bottom. The first two wells tested were jack-equipped, pumping 16 hours per producing day at twenty 50-in. strokes per minute producing a large quantity of water. A summary of dynamometer tests taken on these two wells is shown in Table 1, which indicates the removal of 2,035 and 2,075 ft. of ¾-in. rods, respectively, would enable the well to be produced with approximately five polish-rod horsepower with a maximum load of 7,300 lb. Previous load tests are also shown but because of the time interval between readings the comparison is not very good as the initial readings were taken in the early pumping life of these wells while water production was small, and the de-

Author's Title: Pumping up the Hole or the Effect of Reducing Pump Submergence in West Side Pumping Wells in the East Texas Field.
*See list of definitions.

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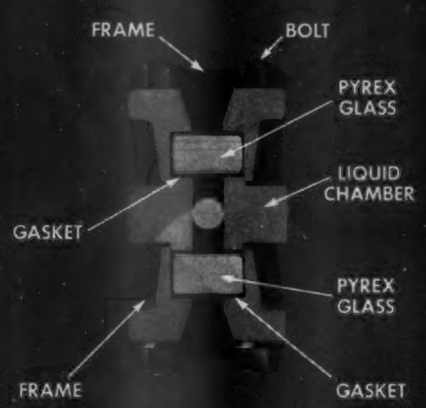

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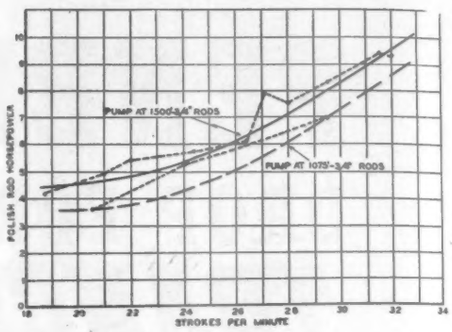
TABLE 1—SUMMARY OF DYNAMOMETER TEST—CITIES SERVICE OIL CO.'S J. T. JETER LEASE—CONVENTIONAL SETTING AND DECREASE

Lease—	Date	Pump depth (ft.)	Pol. rod stroke (in.)	Stroke per minute	Dynamometer readings— Max. load (lb.)	Min. load (lb.)	Range (lb.)	P.R. hp.
J. T. Jeter No. 4	1-19-38	3,535	48½	20	8,210	7,075	6,460	5.99
	11-30-38	3,535	48½	20.7	8,760	3,785	4,975	7.57
	11-30-38	3,535	48½	21	8,535	3,710	4,825	8.00
	2-21-39	1,500	48½	17.5	6,900	1,040	5,860	5.05
	2-21-39	1,500	48½	20.5	7,010	520	6,490	5.85
J. T. Jeter No. 7	1-19-38	3,575	48½	20	7,840	1,570	6,270	5.6
	11-30-38	3,575	48½	21	9,575	4,080	5,495	8.94
	2-21-39	1,500	48½	16.5	6,243	2,000	4,240	3.75
	2-21-39	1,500	48½	20	7,460	2,040	5,420	5.13
	2-21-39	1,500	48½	20	7,310	2,340	4,970	5.13

	S.P.M.	—3,500 ft. depth— Max. load	PR. hp.	—1,500 ft. depth— Max. load	PR. hp.	— Reduction — Max. load	PR. hp.
J. T. Jeter No. 4	20	8,210	5.99	7,010	5.85	1,200	.14
	20.7	8,760	7.57				
J. T. Jeter No. 7	20	7,840	5.6	7,460	5.13	380	.47



Curve No. 1—Horsepower on polish rod needed to decrease pump submergence—No. 13 J. T. Jeter well as of April 6, 1939

creased submergence taken while water production was large. Results of these preliminary tests were satisfactory except for volume requirements which may be expected when the well is approaching depletion; therefore a nearly depleted average fluid-level well on the same lease was chosen for installing a unit capable of producing what is thought to be a maximum average fluid withdrawal. It is believed a volume in the range of 500 to 600 bbl. of fluid per day would be a maximum average fluid withdrawal rate under the present proration restrictions.

The well chosen was located in the Gladewater townsite area and was equipped as follows:

Prime mover.—The prime mover used to drive the 10-hp. pumping unit was a 4-cylinder, 116 cu. in. displacement, water-cooled, natural-gas engine having a 3¼-in. by 3½-in. stroke and bore. The engine, under continuous service, develops 15 hp. at a normal speed of 1400 r.p.m. The engine is one of the smallest obtainable for pumping application and has proved to have an adequate power output and speed range for flexibility and suitable application for the small 10 hp. pumping unit.

Pumping unit.—The pumping unit was a 10 hp., 10,000-lb. polish-rod load capacity, double-reduction speed reducer of 50,000 in. lb. peak torque rating. This unit was on extended steel skids, twin pitman and rotary balanced cranks. Normal stroke obtainable is 18-in., 24-in., and 36-in.; however, a multiplication was used by moving the walking beam which gave a maximum stroke of 41 in. at the polish rod.

Subsurface equipment.—The subsurface equipment consisted of 2½-in. upset tubing, common 2½-in. working barrel with 2¼-in. cup and ring-packed plunger, and 1,500 ft. of ¾-in. rods. This change in decreasing the pump submergence is illustrated by Fig. 1.

Production tests, well loads, and performance were observed both before the change in working position, i.e. at 3,600 ft., and after the working position was at 1,500 ft. and 1,075 ft.

Results of the test when operating at various speeds and depths is summarized in Table 2 and a curve illustrates the polish-rod horsepower required under these conditions (Curve 1). In a test taken June 3, 1938, with a full string of rods, 20 s.p.m. and 50-in. stroke on the jack, it was observed that the maximum polish-rod load was 8,660 lb., with a load range of 6,270 lb. as compared to 6,000 lb. maximum polish-rod load, range load 5,700 lb. at twenty 41-in. strokes per min., on April 6, 1939, with 1,500 ft. of ¾-in. rods. This is a reduction of the maximum load in the amount of 2,390 lb. or 27.5 per cent.

Further along these lines in an effort to have a rod string weight which would be comparable to 1,500 ft. of ⅞-in. rods, the pump submergence was decreased to 1,075 ft. of ¾-in. rods. This further reduced the maximum polish-rod load to 4,115 lb., range of 3,658 lb., which is a reduction of 4,545 lb. or 52 per cent as compared to the conventional method.

The bottom-hole recording pressure gage can be used in flowing wells to advantage in determining the working level at different rates of production[1]; however, if used in pumping wells its use necessitates pulling the rods, and at times even the tubing, in order to lower the instrument into the well. This requires considerable time, delay, and expense which can be eliminated by using an instrument of sonic or wave-reflection principle.

TABLE 2—SUMMARY OF DYNAMOMETER TEST—CITIES SERVICE OIL CO.'S J. T. JETER LEASE—DECREASED SUBMERGENCE

Well number—	Date	Pump depth (ft.)	Polish-rod stroke (in.)	Strokes per minute	Max. load	Min. load	Dynamometer reading— Range (lb.)	PR. hp.	Calc. prod.[1] rate b.hp.	Calc. peak[2] Pr. load (lb.)
J. T. Jeter No. 13	*4-3-39	1,527	41	18.7	5,750	700	5,050	4.22	18.86	5,500
	†4-6-39	1,527	41	21.0	6,000	300	5,700	4.9	21.17	5,575
	*4-3-39	1,527	41	22.0	6,060	600	5,460	5.4	22.18	5,625
	†4-6-39	1,527	41	24.4	6,500	700	5,800	5.73	24.59	5,700
	†4-6-39	1,527	41	26.4	6,700	600	6,100	6.11	26.61	5,775
	*4-3-39	1,527	41	27.1	6,600	400	6,200	7.88	27.31	5,800
	†4-6-39	1,527	41	28.0	7,300	700	6,600	7.56	28.23	5,830
	*4-3-39	1,527	41	28.0	7,100	500	6,600	7.52	28.23	5,830
	†4-6-39	1,527	41	29.5	7,300	700	6,700	8.3	29.75	5,880
	†4-6-39	1,527	41	31.5	7,300	300	7,000	9.45	31.52	5,960
	*4-3-39	1,527	41	32.0	7,640	0	7,640	9.36	32.26	5,975
J. T. Jeter No. 13	‡4-27-39	1,075	41	20.5	4,115	457	3,658	3.56	20.65	3,910
	4-26-39	1,075	41	24.0	5,373	230	5,143	5.18	24.20	4,000
	4-26-39	1,075	41	29.5	5,830	343	5,487	6.98	29.75	4,150

*Dynograph read by Lufkin. †Kemler—Gulf by National Supply. ‡Dynograph read by Humble.
[1]Assumes plunger travel same as polish rod, 100 per cent vol. efficiency. [2]Slonnegers Formula—A.P.I. Spec. 11-E.

TABLE 3—SUMMARY OF FLUID-LEVEL DETERMINATIONS—CITIES SERVICE OIL CO.'S EAST TEXAS LEASES AS OF DECEMBER 1, 1939

Lease—	Well No.	Size of tubing (in.)	Duration of producing time	Casing pressure lbs./sq. in.	Fluid level draw down (ft.)	Observed static fluid level	Observed working fluid level	(1) Est. prod. rate bbl./hr.	Estimated percentage Water Produced	Oil Produced	Method used	How produced
A. A. Lockhart	4	2½	4 hr. 35 min.	3–5	1,140	1,630	2,770	*14.57	16	84	Sonic wave	Pump
(M. Tennison Sur.)	5	2½	5 hr. 30 min.	0	116	356	472	17.20	26	74	Sonic wave	Pump
	6	2½	1 hr. 27 min.	77–82	R 2	566	564	17.20	15	85	Sonic wave	Pump
	7	2½	4 hr. 30 min.	0–10	30	343	373	17.20	24	76	Sonic wave	Pump
(2)	9	2	.....	6	....	313	....	....	5	95	Sonic wave	Shut in
V. L. Taylor (2)	6	2½	7 hr. 30 min.	0–6	290	343	633	*26.9	16	84	Sonic wave	Pump
(Tennison Sur.)	8	2½	7 hr. 30 min.	12–7	713	447	1,169	13.77	43	57	Sonic wave	Pump
	9	2	7 hr. 30 min.	22–9	179	416	595	8.33	33	67	Sonic wave	Pump
J. T. Jeter	1	2½	7 hr. 45 min.	115–155	915	2,120	3,035	19	40	60	Sonic wave	Pump
(Hokit-Choate Sur.)	2	2½	2 hr. 50 min.	13–15	940	780	1,720	*20-21	85	15	Sonic wave	Pump
	3	2½	3 hr. 45 min.	55–61	15	290	305	20	88	12	Sonic wave	Pump
(2)	4	2½	7 hr. 25 min.	0	....	....	350	21	94	6	Sonic wave	Pump
	6	2½	7 hr.	30–37	105	170	275	24	50	50	Sonic wave	Pump
(2)	7	2½	7 hr. 45 min.	30	....	....	520	20	93	7	Sonic wave	Pump
	9	2½	7 hr. 05 min.	15–25	810	1,460	2,270	18	44	56	Sonic wave	Pump
(2)	10	2½	6 hr. 05 min.	15–10	135	180	315	19	91	9	Sonic wave	Pump
(2)	11	2½	6 hr. 50 min.	17–3	895	440	1,335	19	1	99	Sonic wave	Pump
(2)	12	2½	3 hr. 40 min.	26–10	20	290	310	19	90	10	Sonic wave	Pump
E. L. Walker	4	2½	45 min.	64	220	780	1,000	30	0	100	B.H.P. gage	Flow
(Tate Sur.)	9	2½	30 min.	40	680	720	1,400	16.6	0	100	B.H.P. gage	Flow
C. O. Christian (Sims-Elliott-Whitman Sur.)	7	2½	3 hr. 35 min.	65	312	630	942	55.61	0	100	B.H.P. gage	Flow

*Actual gages. (1) Based on 100 per cent vol. efficiency. Plunger stroke assumed same as polish-rod stroke. (2) Wells with reduced pump submergence.

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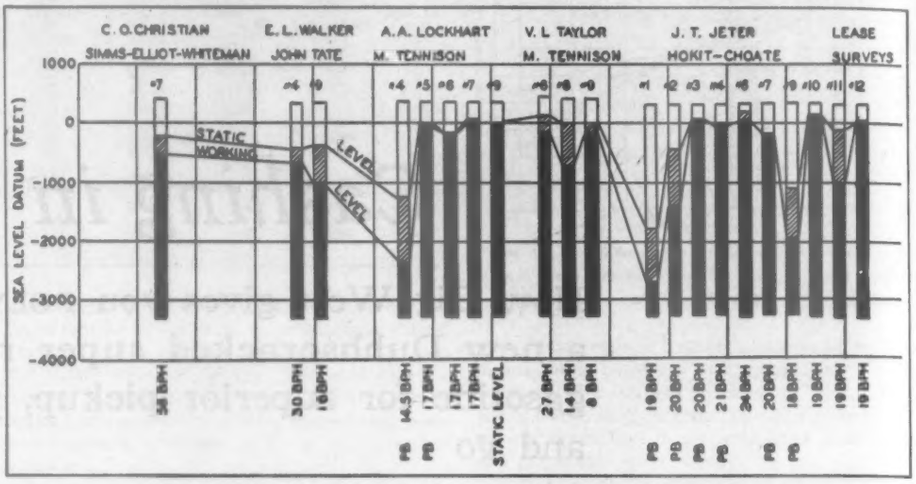
The summary of fluid-level determinations on 21 wells located on five different west-side leases whose location range from the Gladewater area south to Kilgore indicate these two methods are workable. Three of the wells were still producing naturally, the remaining wells being pumped at normal production rates or shut in as the data show.

Table 3 is a summary of this information and a chart (Curve No. 2) has been prepared to graphically demonstrate the various static and working-fluid levels obtained. The wells are produced under normal or maximum rates anticipated, as equipment or conditions permit, and the working-fluid levels determined. Four wells dropped to a level between 1,000 ft. and 1,720 ft. from the well head, three wells went 2,000 ft. below the well head while the remaining 13 wells have working-fluid levels less than a thousand feet from the well head. Of the wells tested, eight have been plugged back by either a squeeze or semisqueeze method, and four of these wells indicate the working-fluid level has been decreased to some extent. Apparently this remedial work, where effective, causes an appreciable decrease in the sand permeability which is reflected by the change in productivity index and the working-fluid levels. It is reasonable to assume that a successful plug-back campaign would preclude the possibility for high working-fluid levels, which obviously would eliminate the application of small pumping units to the wells remedied in that the effective lift would be increased such that the torque rating of the reducer would be exceeded.

The importance of determining the working fluid levels cannot be over-stressed as the entire application is predicated on the basis that the rate of water encroachment is swifter than is the decline in bottom-hole pressure, i.e. the decline in the working-fluid level is experienced but before the level drops below the point where the unit rating would be exceeded the water has increased to such an extent that the well is depleted and will be abandoned.

A history of fluid levels and bottom-hole pressure for the five leases is tabulated in Table 4, and these data tend to illustrate this effect in that the static fluid level is declining at a rate of 45.6 ft. per year, the static bottom-hole pressure at minus 3,300 ft. dropping 47.64 lb. per year. Present history indicates that wells situated along the west side, which has a relatively small oil-saturated sand section, are in the majority of cases abandoned from 2 to 5 years after first producing water.

Placing the working barrel 1,500 to 2,000 ft. from the casing head has to date been very satisfactory. For example, three wells on the V. L. Taylor lease, Nos. 6, 8 and 9, had a high static fluid level, ranging from 179 ft. to 713 ft. draw-down. During the test for fluid levels these wells were normally produced pumping 7½ hours. The capacity of the annular, when 2⅛-in. tubing is in 7-in. casing, is 3.96 bbl. per 100 ft., which on wells No. 6 and 9 meant only 11.5 bbl. and 7.5 bbl. respectively had been taken from the annulus. On well No. 8, which lowered 713 ft., a total of 28 bbl. was produced from the annulus. Under present well allowables and until the pumping well is producing in excess of 50 per cent water, assuming the permeability is very low, which means the draw-down is appreciable, sufficient volume of fluid is stored in the annulus to provide the daily well allowable.



Curve No. 2—Fluid-level determinations on some Cities Service west-side wells

Pump Dynagraph

Most recent of the important well-testing instruments is the pump dynagraph[7 8 9 10 11 12] which records plunger movements and variations in plunger load. This instrument was installed on a well which was pounding fluid to better understand the action at the pump. No fluid level had been determined at that time and it was thought the apparent gas lock was due to the pump action rather than to the well's low productivity factor which investigation later revealed.

These different tests were made: Two tests changing the pump location in the string and lastly installing a gas anchor. The well was produced 17.5 strokes per minute, polish-rod stroke of 49.5 in. with a 2¼-in. common working barrel, ¾-in. rods set at 2,011 ft. On the first run, the subsurface dynagraph card indicated a plunger stroke of 42.5 in. at the pump, effective stroke decreasing from 46 in. to 27 in. due to gas action, a plunger load of approximately 4,000 lb. and a good volumetric efficiency until 4 hours after starting up. At this time production dropped from 20 bbl. per hr. rate to 8 bbl. per hour. The next test was made by raising the dynagraph and pump to 1,777 ft. from the surface and running at the same speed. Plunger stroke was increased to 46.5 in. although load decreased to approximately 3,000 lb. and volumetric efficiency ranged from 100 per cent down to 41 per cent at the end of a 12-hour period. Production again decreased as in the previous test and a comparison of the effective plunger stroke which compared to the total stroke of 46.5 in. showed gas was passing through the pump causing the effective stroke to be only 20.5 in. which was a decrease of 26 in. or 56 per cent.

Believing a gas anchor would tend to eliminate the apparent gas trouble in this well, a third run was made after installing a gas anchor with the pump set at 1,777 ft., the gas anchor on bottom of pump barrel. Results of this run were to increase the plunger load, and to increase the effective stroke to essentially same as the plunger stroke. These two factors indicated that the gas was being eliminated and a denser fluid was being handled through the pump. However, as stated before, the productivity index was quite low which permitted the fluid to decrease the working fluid level to within 6 ft. of the pump and the results obtained were not considered representative of decreased submergence in high-capacity wells. Even though these results were not as good as expected, the test does tend to indicate that: (1) With a short rod string the effective plunger stroke is greater, due to less rod elongation; (2) gas can be decreased by utilizing a gas anchor if the well is troublesome; (3) and the volumetric efficiency will be high when the pump has sufficient submergence.

(To be Concluded Next Week)

Definitions

For the purpose of clarifying terms used in this paper the terminology is based on accepted concepts of well performance and interpretations. However, for better application to pumping wells all fluid levels observed will be referred to the well casing head.

Static fluid level is the point below the casing head at which the top of the fluid column stands under equilibrium conditions, i.e., the well is shut in and the pressure due to the column of fluid plus the casing-head pressure equals the bottom-hole pressure in the sand.

Working fluid level is the point at which the top of the fluid column stands in the annulus during settled producing rates, whether pumping, gas lifting or flowing, and in most west-side wells remains high under the slower producing rates.

Drawn-down is the distance the fluid column drops from the static level under various producing rates or the static fluid level minus the working fluid level would equal the amount of draw-down.

Effective lift is the vertical distance from the well head to the working level and is that distance to which artificial methods must be employed in conjunction with the natural energy to raise the fluid to the point of discharge after the well stops flowing.

Pump submergence is the vertical distance, in feet, between the working fluid level and the location of the well pump. This distance depends upon the productivity index of the individual well, the rate of withdrawal under artificial flow, and the placement of the working barrel.

TABLE 4—HISTORY OF FLUID LEVELS AND BOTTOM-HOLE PRESSURES—CITIES SERVICE OIL CO. EAST TEXAS FIELD

Lease—	Static fluid level (as of first record) in feet	Static fluid level as of Dec. 1, 1939 (ft.)	Static fluid level change (total interval) in feet	Static fluid level change per month	Bottom-hole pressure as of Jan. 1, 1933	Bottom-hole pressure as of Dec. 1, 1939	Change in bottom-hole pressure	Change per month in bottom-hole pressure
A. A. Lockhart	710	770	—60	—2.4	1,441	1,098	—343	—4.13
J. T. Jeter	430	660	—230	—4.5	1,489	1,174	—315	—3.79
V. L. Taylor	500	670	—170	—3.3	1,453	1,086	—367	—4.42
E. L. Walker	490	550	—60	—1.5	1,449	1,112	—337	—4.06
C. O. Christian	560	910	—350	—7.4	1,426	1,142	—284	—3.42
Average above leases		712		—3.8	1,452	1,122	—330	—3.97
Change per year				—45.6				—47.64

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ALKYLATION

(Continued from Page 43)

by the alkylation of them with low-molecular-weight olefins.

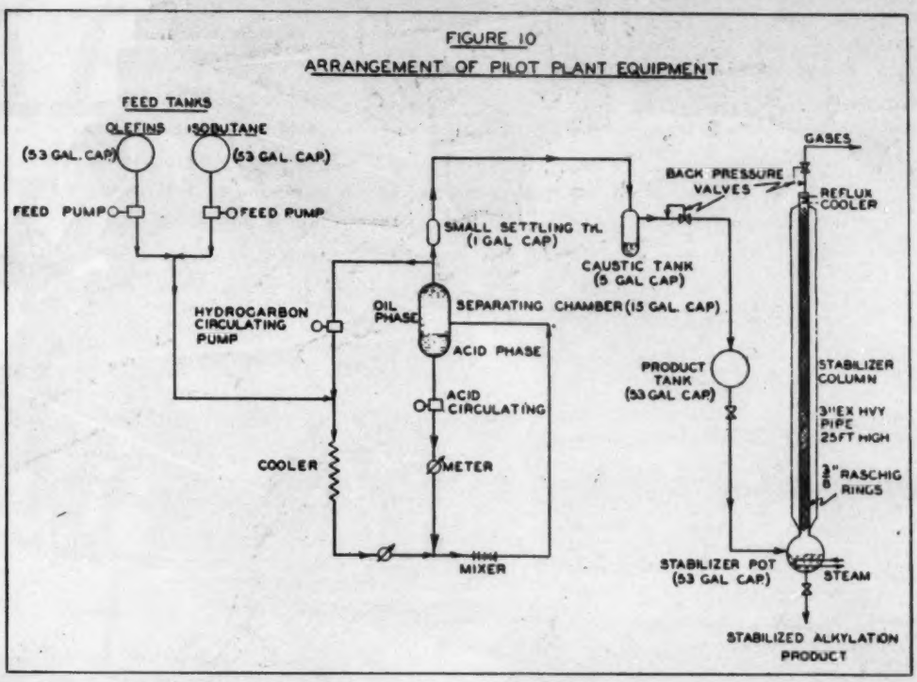
It may be interesting at this point to draw a comparison between alkylation and polymerization in order to show the course of the reaction in these processes. Fig. 5 shows the parallelism between these two reactions. In polymerization, two molecules of an olefin, in this case isobutylene, react to form a new molecule, isooctylene, which still contains a double bond and is therefore classified as unsaturated. In alkylation, one molecule of isobutylene reacts with one molecule of isobutane to form isooctane which is a saturated material, that is, does not contain a double bond. The isooctylene produced by polymerization, however, can be hydrogenated, that is, hydrogens can be added onto the molecule at the double bond, yielding the same isooctane that is produced by alkylation in the parallel case.

It has been demonstrated that the polymers of the olefins can be used as well as the olefins themselves in the alkylation process. Thus diisobutylene, the polymer formed from two molecules of isobutylene as shown in Fig. 5, behaves during alkylation as if it were isobutylene, that is, it appears to decompose into the parent monoolefin. It is necessary, however, to use an amount of isobutane that corresponds with the potential two molecules of isobutylene rather than with one molecule of diisobutylene in order to realize satisfactory results. Polymerization may be used to concentrate the olefins for use in the alkylation process. It is possible to segregate olefins by polymerization at one locality and ship the polymers, which are concentrated olefins, to another for alkylation. It should be pointed out that considerable additional expense is thus incurred and that direct alkylation of the low molecular weight olefins is probably the preferred process.

The type of alkylation which we are considering has developed through stages over a period of 70 years. The successful alkylation of aromatics with olefins, using aluminum chloride as catalyst, was reported by Balsohn[1] in 1879. Kraemer and Spiker[2] used sulfuric acid as catalyst for the alkylation of aromatics in 1890. Brochet[3] studied the same reaction in 1893 and Ipatieff, Corson and Pines[4] in 1936. The use of phosphoric acid as catalyst for the alkylation of the aromatics was reported by Ipatieff, Pines and Komarewsky[5] in 1936.

The alkylation of paraffins using boron trifloride as catalyst was considered by Ipatieff and Grosse[6] in 1935 and using aluminum chloride as catalyst in 1936.[7] In 1938 and this year three papers have been published by Birch, Dunstan, Fidler, Pim, and Tait of the Anglo-Iranian Oil Co., Ltd.,[8 9 10] which summarize the results of their work on the use of sulfuric acid as catalyst for the alkylation of isoparaffins with olefins.

FIGURE 10
ARRANGEMENT OF PILOT PLANT EQUIPMENT



Reaction Is New

It is seen from the above historical summary that information on sulfuric acid catalyzed alkylation of isoparaffins with olefins has only recently become available. The reaction with which we are dealing is new, so new that we may state with confidence that text books now in use do not discuss it.

The paraffins, which may be understood to include the isoparaffins, have until recent years been considered chemically inert insofar as reactions between themselves and with other hydrocarbons are concerned. The word paraffin is derived from two Latin words, parum meaning little and affinis meaning affinity. This derivation shows how the chemist of yesteryear classified some materials which today display great affinity for the olefins even at temperatures below zero Fahrenheit in the presence of catalysts.

For the information of those who are not familiar with chemical terms, a catalyst is any substance which alters, increases or decreases, the velocity of a chemical reaction without appearing in the end products; however, it may be used up in the process by side reactions. It should be understood that isobutane and olefins can exist in the same solution at ordinary temperatures for a very long period of time without reacting one with the other to an appreciable extent. When a good catalyst agent is introduced into the system, a very rapid and fairly complete reaction occurs between olefins and isoparaffins in as short a time as 1 minute even at subzero temperatures.

Among the substances which have been found to be catalysts for the reaction between the olefins and isoparaffins are aluminum chloride, concentrated sulfuric acid, and chlorosulfonic acid. Our work, however, has been concerned in the most part with the use of sulfuric acid as catalyst. It is interesting to note that one of the first reagents to find use in the refining of

(Continued on Page 65)

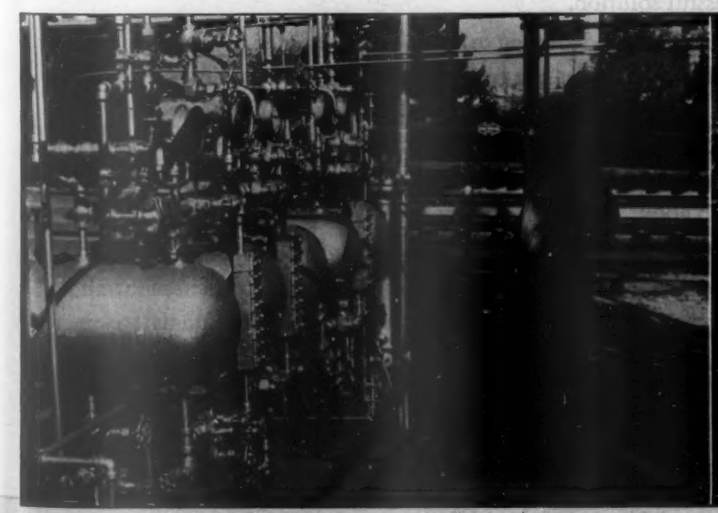


Fig. 13

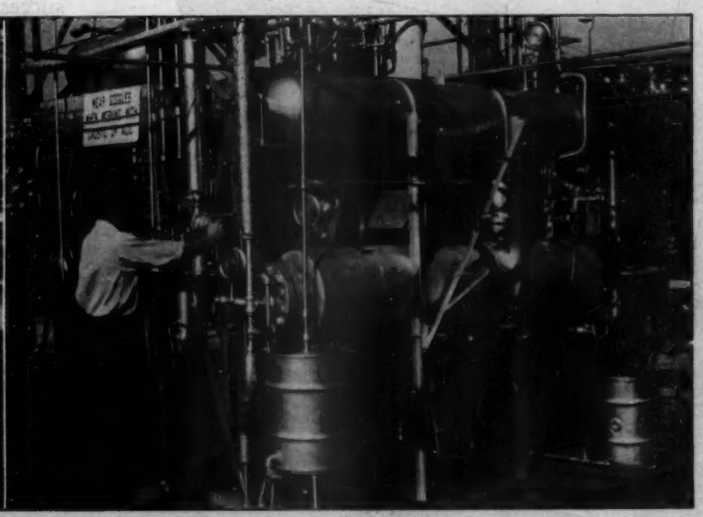
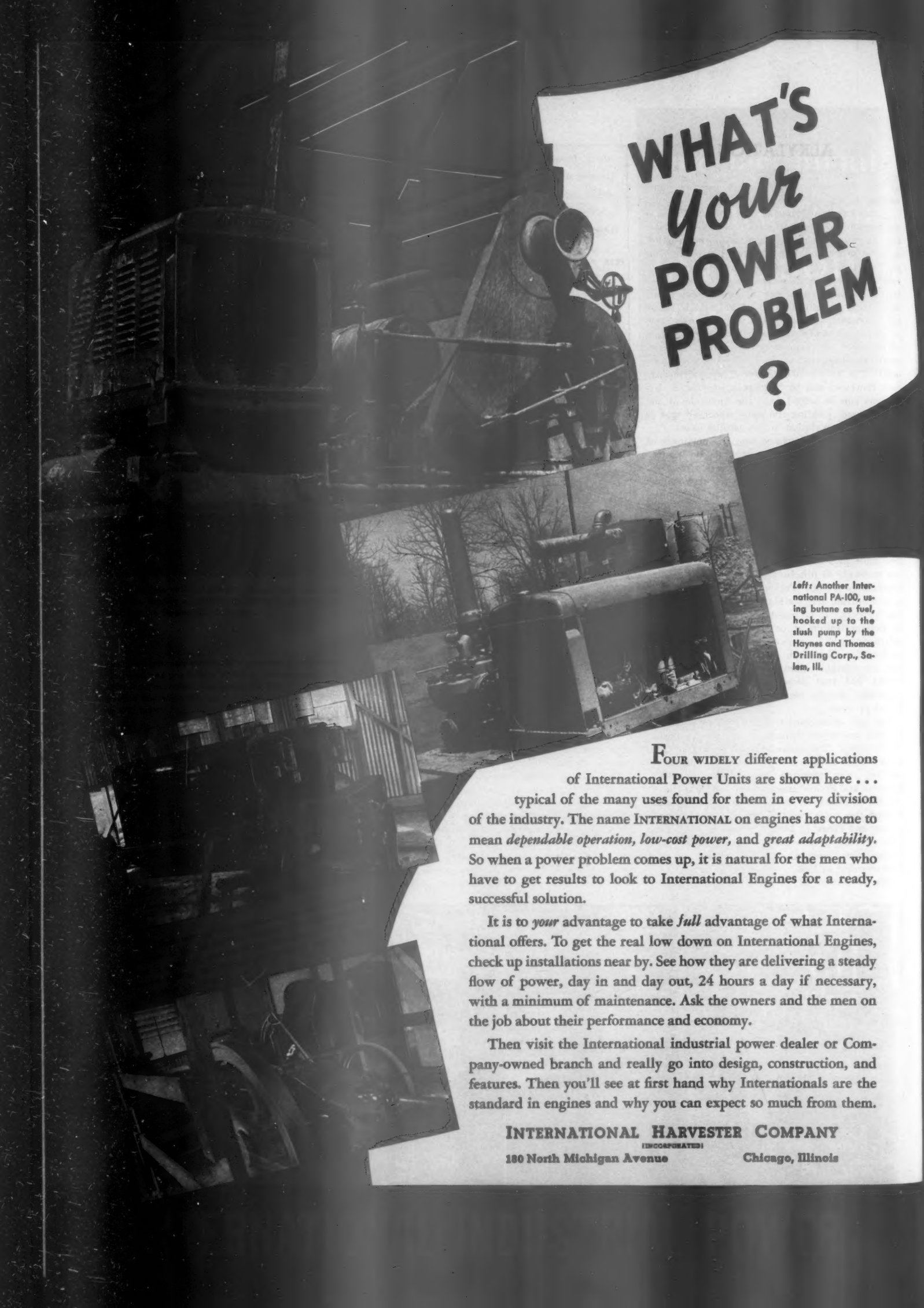


Fig. 14



WHAT'S *Your* POWER PROBLEM ?

Left: Another International PA-100, using butane as fuel, hooked up to the slush pump by the Haynes and Thomas Drilling Corp., Salem, Ill.

FOUR WIDELY different applications of International Power Units are shown here . . . typical of the many uses found for them in every division of the industry. The name INTERNATIONAL on engines has come to mean *dependable operation, low-cost power,* and *great adaptability.* So when a power problem comes up, it is natural for the men who have to get results to look to International Engines for a ready, successful solution.

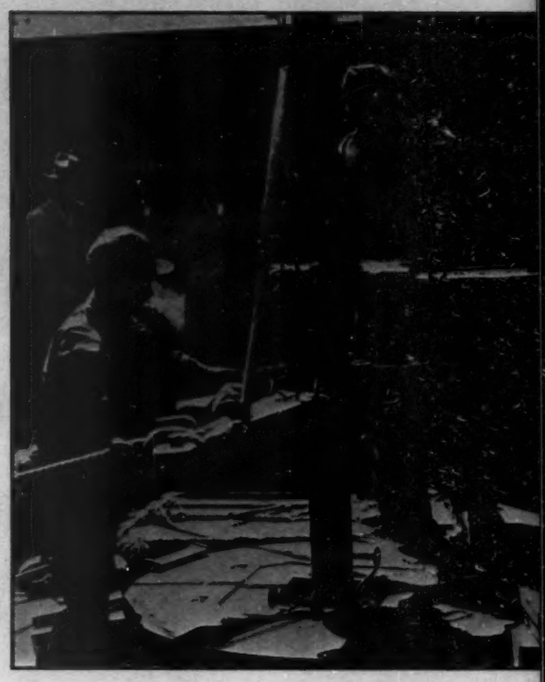
It is to *your* advantage to take *full* advantage of what International offers. To get the real low down on International Engines, check up installations near by. See how they are delivering a steady flow of power, day in and day out, 24 hours a day if necessary, with a minimum of maintenance. Ask the owners and the men on the job about their performance and economy.

Then visit the International industrial power dealer or Company-owned branch and really go into design, construction, and features. Then you'll see at first hand why Internationals are the standard in engines and why you can expect so much from them.

INTERNATIONAL HARVESTER COMPANY
[INCORPORATED]
180 North Michigan Avenue Chicago, Illinois

METALS in DRILLING

By W. L. NELSON



MISCELLANEOUS ALLOY EQUIPMENT

The miscellaneous pieces of drilling equipment that are discussed in this article are of such a varied nature that they cannot be treated as a whole. Because of the extreme importance of cost, a brief general comparison of the relative costs of the various low-alloy steels is included. The alloys that are recommended in this and other articles of this series were reviewed in published information of recognized steel companies, fabricators and from discussion with field men. Views expressed here are not necessarily the selection of the staff of The Oil and Gas Journal—and if any important steels have been neglected it is because they have not been widely used or publicized. In future articles the metals that are used throughout the entire industry will be discussed, progressing through the materials used in producing oil, refining, natural gasoline manufacture and finally, transportation.

IN the accompanying table are shown data on the analysis and physical properties of steels used for tool-dressing operations, tongs, tubing catcher and slip inserts or pins, hooks, kelleys, drill jars, and other miscellaneous equipment which have been omitted in previous articles.

The steel used in drill jars must be particularly tough and strong because of the severe blows and impact duty that must be sustained by this equipment. Due to the continual hammering which it receives, steels which are not susceptible to work-hardening must be employed. Steels that do work-harden often lose much of their ductility or toughness during use, and although they may gain greatly in strength and hardness they may become so brittle that failure occurs.

Tongs receive somewhat the same treatment, at least they are sometimes fastened to a tool or point and the entire power of the rotary engine is suddenly applied for the purpose of breaking loose a tight joint. This is a particularly difficult service because the jaws must be hard enough to dent or grip the steel objects that are themselves very hard and hence it is difficult to produce a jaw material that is hard and at the same time tough enough to resist sudden impact loads. Jaw pieces are sometimes given a double-heat treatment which consists of normalizing and drawing the jaw piece to a relatively low hardness, machining to final dimensions, quenching and tempering to a high hardness.

Costs of Low-Alloy Steels

In manufacturing alloy steels, there are a number of costs in addition to the direct cost of the alloy elements added. In manufacturing such steels, expense is incurred in controlling the somewhat small operations, the analyzing and the testing of special products and ingredients, the recovery of a smaller amount of sound metal, the loss of alloy elements into scrap, and the extra power required to roll the somewhat harder alloy steels. In a general way about half of the extra cost of alloy steels is due to the high cost of alloy elements and about half to the extra costs which are enumerated above. There are, however, many exceptions, particularly for those steels which are very hard, such as the S.A.E. 3300 series, which contain 3.5 per cent nickel and 1.5 per cent chromium. The accompanying table, "Approximate Costs of Low-Alloy Steels in Simple Shapes," shows that this particular series of steels is more expensive than others. The costs that are shown in the table are for low-alloy steels in the shape of small bars and is based on the schedule of extras which was in use during the first part of 1939. These costs are related to a base price of 2.8 cents per lb. for plain carbon steel. Obviously, much higher prices should be charged for special shapes such as those used in drilling because drilling equipment is not made in large quantities and the expense of making a large number of small heats is of major importance. However, it might be expected that the costs of alloy-steel equipment, as compared with carbon-steel equipment, will not deviate greatly from the relative costs shown in the table if application is made to manufacturers who are specializing in the fabrication of such special alloy-steel equipment. Of the commonly used alloy elements, the cheapest is chromium and the others follow in the order of nickel, molybdenum and vanadium ($2.70 per lb.). Nevertheless, vanadium and molybdenum are extremely potent elements, so that relatively small amounts are sufficient. Of even greater importance, each of the alloy elements imparts certain properties to steel and hence its benefits are felt in great volume.

APPROXIMATE COSTS OF LOW-ALLOY STEELS IN SIMPLE SHAPES

S.A.E. series—	Composition, % Ni	Cr	Mo	Relative* cost in form of bars
Carbon	...	...	...	$1.00
2100	1.50	...	...	1.27
2300	3.50	...	...	1.56
2500	5.00	...	...	1.80
3100	1.25	0.60	...	1.25
3100+	1.50	0.60	...	1.29
3200	1.75	1.10	...	1.48
3300	3.50	1.50	...	2.36
4100	...	1.00	0.20	1.18
4100+	...	1.00	0.35	1.27
4340	1.75	0.65	0.35	1.66
4600	1.75	...	.025	1.39
4800	3.50	...	.025	1.72
6100	...	1.00	Va.0.16	1.43

*Extras on constructional alloy steels during early 1939.

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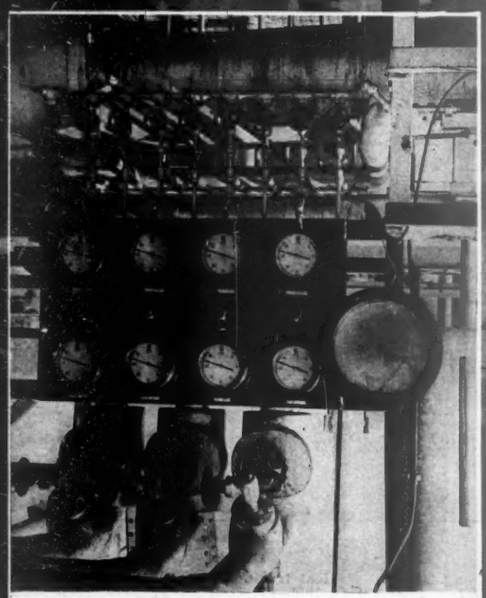
MISCELLANEOUS DRILLING EQUIPMENT

Part—	Steel*	Approx. composition, per cent† C	Mn	Cr	Ni	Mo	Approx. phys. prop. Y.P.	Elong.	Brinell	Heat treatment	Reference
Tool dressing:											
Chisels	Silicon moly.	0.47	0.40	...	Si.1.07	0.53	110,000	22	270	O.Q. 1550—T. 1200	6
Rams	Cast mang. moly.	0.40	1.75	...	...	0.25	120,000	20	270	O.Q. 1500—T. 1200	6
Tong handle	Cast chrom. nickel moly	0.35	0.65	0.60	1.25	0.20	110,000	19	280	O.Q. 1525—T. 1000	24
Tong jaw	Cast chrom. nickel moly.	0.35	0.65	0.60	1.25	0.20	145,000	16	...	O.Q. 1525—T. 800	24
	Cast chrom. vana.	0.40	0.75	1.00	...	Va.0.18	140,000	19	...	Heat treated	22
	Cast chrom. moly. vana.	0.40	0.65	1.25	Va.0.15	0.35	150,000	16.5	...	Heat treated	22
Inserts	4615	0.15	0.55	...	1.80	0.25	.....	..	600+	Carburized and case hardened	6
Link pins	3115	0.15	0.45	0.60	1.25	...	.....	..	600+	Carburized and case hardened	21
Tubing catcher or slips	2315	0.15	0.45	...	1.50	...	.....	..	600+	Carburized and case hardened	21
Hook	Cast chrom. moly.	0.35	0.65	1.00	...	0.25	140,000	..	...	Heat treated	6
Kelley‡	4135	0.35	0.65	0.60	1.60	0.20	100,000	20	240	O.Q. 1550—T. 1200	6
	X3140	0.40	0.65	0.90	1.25	...	80,000	21.5	212	Normalized and tempered	15
Drill jars	Vanadium	0.65	0.75	...	...	Va.0.2	138,000	17	...	W.Q.—T. 950	22
	Chrom. vanadium	0.53	0.75	1.00	...	Va.0.2	141,000	18	...	O.Q.—T. 950	22
Casing-head bodies and spools; blowout preventers and control-valve bodies	Cast mang. moly.	0.40	1.75	...	...	0.25	120,000	20	270	O.Q. 1500—T. 1200	6
	Cast carbon moly.	0.29	0.70	...	...	0.22	70,000	20	240	Normalized	6
	Cast nickel	0.35	1.35	...	1.35	...	110,000	21	...	Normalized and tempered	15
	Forged 3,140	0.40	0.65	0.60	1.25	...	112,000	19	250	O.Q. 1500—T. 1100	15
Drive bushings	Hadfield's mang.	1.10	12.50	...	...	Si.0.6	35,000	50	200§	Soaked and quenched	34

*The numbers used in this column refer to the Soc. of Auto. Engs. Classification. †Minor elements as specified by the Soc. of Auto. Engs. or as used for similar steels. ‡Also refer to materials for drill collars, "Metals in Drilling—Drill String and Casing," The Oil and Gas Journal, Nov. 30, 1939. §Hardens with use or cold work.

IN STEP WITH



CHAPMAN LIST 960, Forged Steel Gate Valves, are extensively used for small valve work in Houdry Process installations. Note the squad of Chapman 960's on the instrument board connections of a Houdry Unit, Socony Vacuum Oil Co.

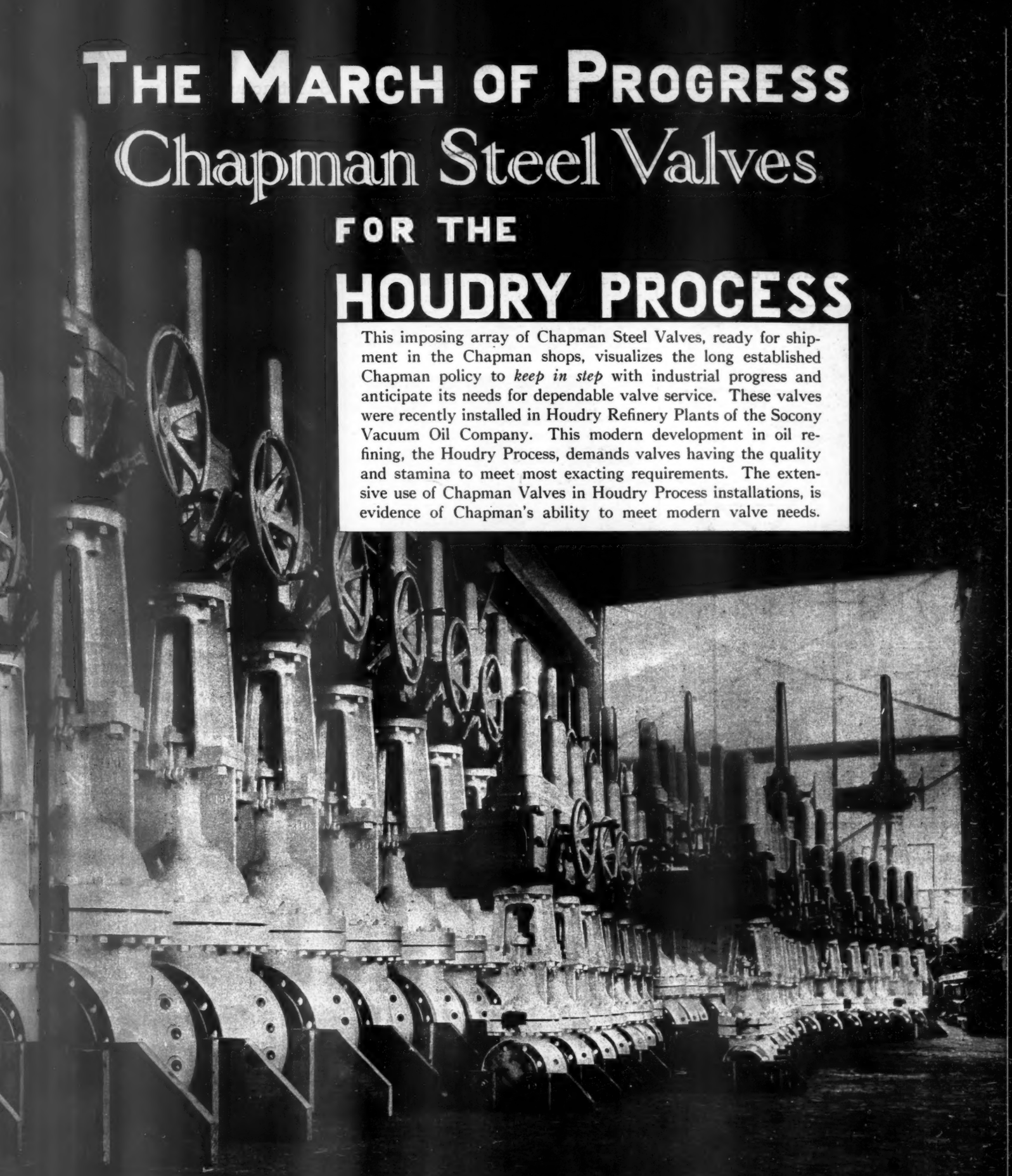
THE MARCH OF PROGRESS

Chapman Steel Valves

FOR THE

HOUDRY PROCESS

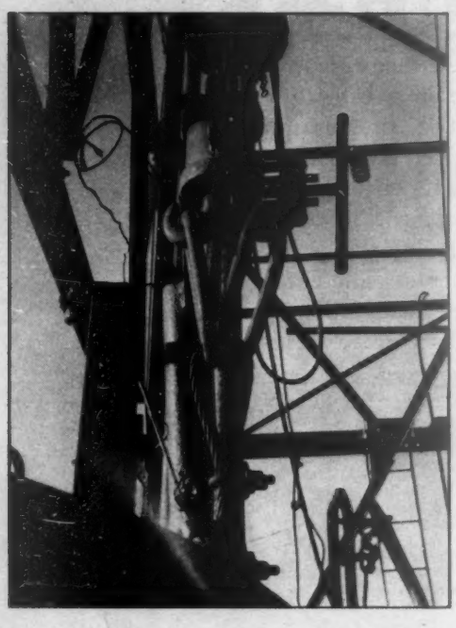
This imposing array of Chapman Steel Valves, ready for shipment in the Chapman shops, visualizes the long established Chapman policy to *keep in step* with industrial progress and anticipate its needs for dependable valve service. These valves were recently installed in Houdry Refinery Plants of the Socony Vacuum Oil Company. This modern development in oil refining, the Houdry Process, demands valves having the quality and stamina to meet most exacting requirements. The extensive use of Chapman Valves in Houdry Process installations, is evidence of Chapman's ability to meet modern valve needs.



THE CHAPMAN VALVE
MANUFACTURING COMPANY
INDIAN ORCHARD, MASS.

Operating Ideas

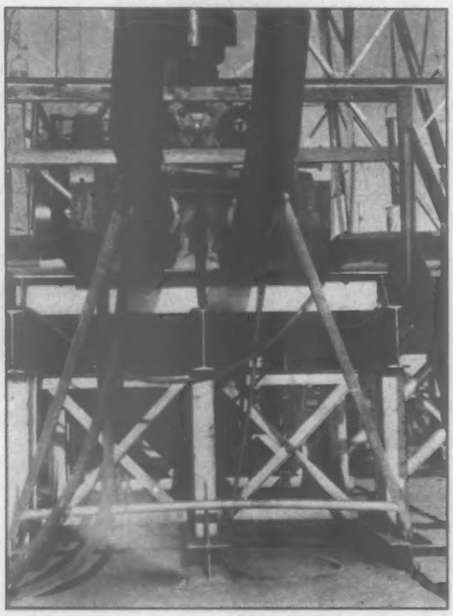
Drilling Clamp Takes Shock Off of Standby Draw Works



Usually the dead-line end of the drilling line on a rotary rig is fastened around the derrick substructure or fastened around a dead man buried beneath the substructure. Where an extra draw works is used, the dead line is spooled up on the drum of the standby hoist. Ordinarily, all the shocks due to sudden starting are transmitted to the draw works. To overcome this, one contractor has attached a cable-tool drilling line clamp on the dead line just a few feet above the standby draw-works drum. A short piece of drilling cable is then fastened through the bails of the cable-tool clamp and around a joint of 6-in. pipe laid underneath the concrete derrick foundation. By tightening the clamp when there is no load on the line most of the shock is absorbed by cable-tool clamp and is thus kept off of the standby draw works.

Unitized Double Exhaust Lines and Support for Diesel Drilling Engine

A contractor having a semidiesel drilling engine with twin 6-in. exhausts has made a manifold which fastens on to the exhaust lines by means of Dresser couplings. The manifold consists of two pieces of 8-in. pipe extending horizontally for about 7 ft. then turning up at 45° for 18 in. They are welded together near the end with a piece of 2-in. pipe. One support bolts to this 2-in. and to a piece welded to the center member of the substructure. There is another support in the form of an "A" which bolts to each exhaust line about two-thirds the way out and then bolts to lower outside I-beam of the substructure. The entire manifold support is held up by six bolts.



Substructures for Fuel Tanks

Large diesel-mechanical or straight mechanical rigs often require fuel tanks at two different levels and the method shown here was recently used on a deep wildcat. The larger tank in the background is at the proper level for fuel going to the engines which drive the generating machinery and

to the engine driving the standby pump. The auxiliary-hoist engine is located on a substructure and its fuel tank must be supported by the high substructure seen in the foreground. Both high and low tank substructures are made in sections for easy moving.

Rack for Oil Drums

All types of drilling rigs use large quantities of lubricating oil and most contractors now have equipment which prevents waste while taking the oil from the drums. Here is a simple and sturdy rack which will withstand the ravages of moving and yet is adequate to the task. It is made from junk pipe and has three grooves for supporting the drums in a horizontal position, a valve being used to control the flow of oil from the drum. The loading platform is built the proper height for quick and easy installation of the drum on the rack.

with SEAMLESS!

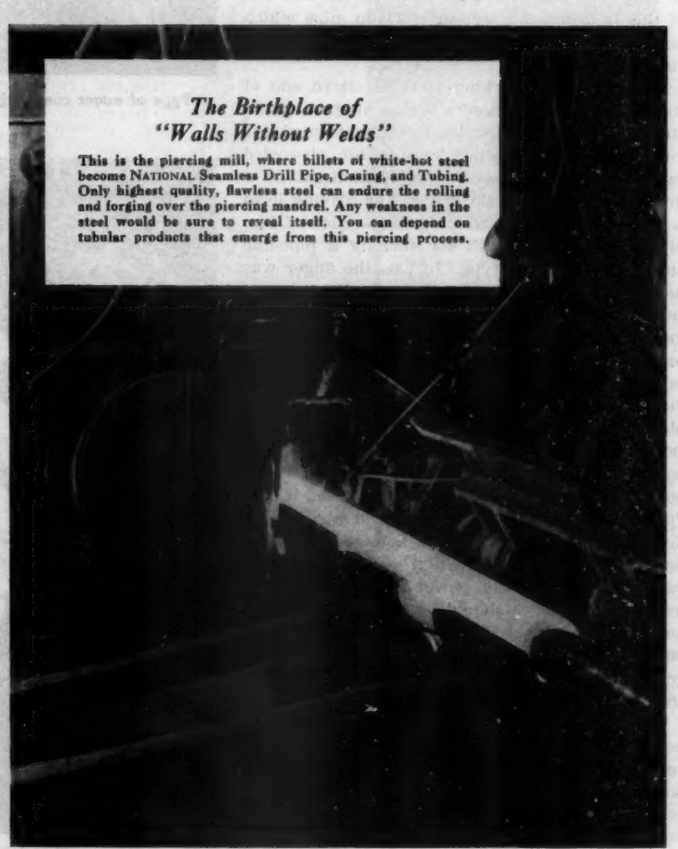
It's best to rely on "WALLS WITHOUT WELDS"

THERE'S real satisfaction in using a string of NATIONAL Seamless for drilling, casing or tubing jobs. You know you are using the safest, most economical pipe ever developed for oil production.

Records on file tell how NATIONAL Seamless Drill Pipe produces thousands of feet of hole under the toughest drilling conditions with dependable performance . . . how NATIONAL Seamless Casing withstands terrific pressures . . . how NATIONAL Seamless Tubing resists fatigue and wear, protects profits when the well goes on the pump.

Down in the ground, thousands of feet below the surface, nothing takes the place of tough, rugged, uniform steel. And that's what you get in every inch of NATIONAL Seamless. For each length of NATIONAL Seamless is pierced from a solid billet of highest-quality steel. There is no weld—no line of potential weakness. Each tube is a perfectly forged steel cylinder, with full wall strength at every point.

Ask the leading operators in any field. They'll tell you "It's smart to use Seamless—better to trust your profits to reliable 'Walls Without Welds.'"



The Birthplace of "Walls Without Welds"

This is the piercing mill, where billets of white-hot steel become NATIONAL Seamless Drill Pipe, Casing, and Tubing. Only highest quality, flawless steel can endure the rolling and forging over the piercing mandrel. Any weakness in the steel would be sure to reveal itself. You can depend on tubular products that emerge from this piercing process.

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ployed what is commonly called the boring method. This consists of boring under the highway or railroad with an auger attached to a section of pipe which is rotated by a gang of men using pipe tongs of the type used in laying screw pipe. The auger is usually a home-made affair, fabricated in a blacksmith shop. The auger is held against the face of the dirt to be cut by means of a wire line passing from a point on the shaft through a snatch block, anchored near the crossing, and back to a power-winch mounted on a truck in the rear of operations. When the auger becomes filled it is withdrawn and dirt is shoveled out.

Jabbing Method

Under conditions prevailing in areas where common labor must be employed which has no experience with pipe tongs, it has been found that the jabbing method has certain advantages. This method consists of jabbing or punching a hole under the highway or railroad, using an auger shaped like a sugar scoop. A typical tool is 3 ft. long and made of 10-gage steel. To the rear end of this is fastened a section of 1½-in. pipe which is turned while the jabbing operation is carried on.

The contractor working at the western end of the line in question, used a boring method but instead of doing the job by hand he rotated the auger by power furnished by a 4½-hp., air-cooled gasoline engine, power being transmitted to a driving head by a chain drive. The driving head is equipped with slips which grip a section of 4-in. pipe serving as a shaft for turning a pipe-line auger of the boring type. In use, the auger was held against the cutting face by a wire line and snatch-block, as is done with the hand-boring method. The engine and other equipment comprising the power-drive unit was placed in a false ditch approaching the crossing. It was mounted on a 26-ft. slide made of 2-in. by 12-in. planks; it is held in place by angle irons on the sides, which also act as guides. The unit was equipped with a clutch having three speeds. When boring a 16-in. hole, second speed was used if conditions were good. Where the ground was mucky, low speed was used. An 8-in. hole can be bored under good conditions in high gear. In order to get the full benefit of power-driven boring, the barrel of the auger should be made so that it is half again as long as the auger used for hand boring. This power-driven boring method was developed by Loy Wilson, at that time superintendent for the contractor.

This machine made 100 ft. of 16-in. hole in 9 hours. The average crossing of 50 to 80 ft. was bored with a 16-in. hole at the rate of 10 ft. per hour. It was possible to bore an average crossing and put in the casing in an 8-hour shift. In addition to doing the job faster than it is usually done by hand, it was found that the machine will bore effectively under conditions which present great difficulties for hand boring. Only four men are required to carry on the operation with this unit. Savings possible by eliminating the eight men required for working the pipe tongs in hand-boring make it possible to justify the investment in the power equipment within a few days.

It has been pointed out that the effectiveness of this method might be improved by using an auger equipped with a spiral or screw-type conveyor which would continuously remove dirt as it was dug. With the present power-driven equipment just described the boring auger, like the scoop type, must be continuously removed from the hole in order to have the men shovel out the dirt which has just been dug.

Type of auger commonly used for road crossings

Gang operating jabbing equipment

BOOKS

MODERN PLASTICS. 454 pp. New York: Breskin Publishing Corp. $2.

This is the catalog and directory number of this publication. Its many articles describe the chemical setup, recent developments, typical uses, forms available, methods of handling, and trade names of each product, so that the volume becomes a complete reference book on the subject of organic plastics. The book has an interesting and attractive cover, made of laminated plastic material. Subject matter is grouped under the general heads of (1) materials, (2) molding and fabricating, (3) machinery and equipment, (4) laminates, (5) bibliography, and (6) directory.

*BENOITS OIL AND GAS FORMS. By Curtis M. Oakes. 2d ed. 686 pp. St. Louis, Mo.: Thomas Law Book Co. $10**

This is a compilation embodying a comprehensive list of forms in common use by the oil and gas industry. It is a revision of a former work, in which special attention has been given to the new oil fields in Illinois and Kentucky.

*May be purchased through the Book Department of The Oil and Gas Journal at the stated price. Postage prepaid in the United States; extra elsewhere. Where company purchase order or check does not accompany order, the book or books will be sent c.o.d. to avoid delay.

TANKER FREIGHT RATES AND TANKSHIP BUILDING. By Dr. T. Koopmans. 219 pp. Haarlem, Netherlands: Netherlands Economic Institute. 2 florins.

This study is an attempt to analyze, explain, and discuss how, by fits and starts, and in spite of wide fluctuations, the tanker freight market operates the adjustment of supply to the growth in the demand for oil transportation. The period covered by the investigation extends from 1921 through 1936. It is primarily an economic and statistical study, rather than a descriptive one, and in it the author has succeeded in combining a careful account of the tanker trade in the world's ocean shipping.

Gang using tons for boring crossing

Removing dirt from jabbing equipment

ALKYLATION

(Continued from Page 51)

oils is a catalyst for promoting one of the newest reactions with which the petroleum technologists are concerned. The role of sulfuric acid as a catalyst in the alkylation reaction is undoubtedly that of bringing the olefin and isoparaffin close enough together to make reaction possible. It is beyond the scope of this paper to discuss the mechanism of the sulfuric acid catalysis of alkylation, and we shall leave it with the few remarks already made.

The foregoing has been a broad introduction to alkylation. We have endeavored to show the probable course of the reaction, the type of materials that react one with the other, and the

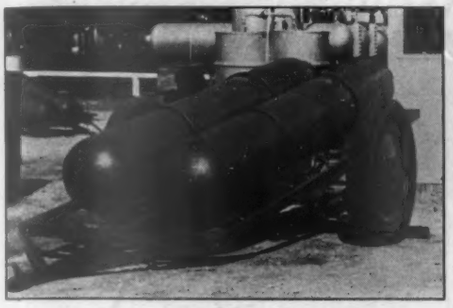


Fig. 11

general character of the products of alkylation. We shall now describe our experimental work, the results of which have to a certain extent been anticipated in what we already have presented.

Small-Scale Experimental Work

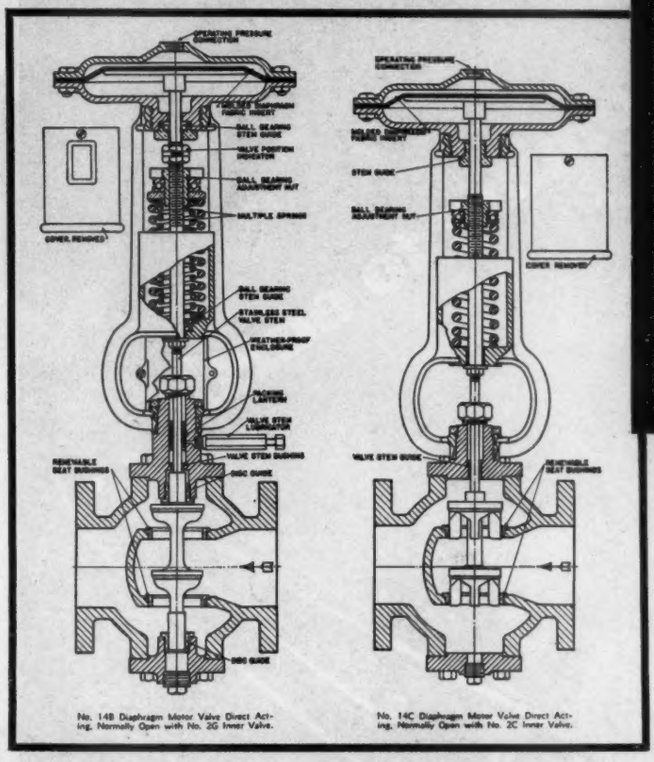
The first attempt to alkylate an isoparaffin with an olefin was prompted by thermodynamic calculations which indicated that the reaction should take place under suitable conditions. Some of our work has been done in small-scale laboratory equipment which is diagrammatically explained in Fig. 6. This equipment consists of a feed chamber equipped with a calibrated sight glass, a reactor surrounded by a constant-temperature bath, a product receiver which also functions as a stabilizer pot, and a small stabilizer or fractionating column with its necessary flow control and measuring devices. The operation of the small-scale alkylation equipment is as follows:

A volume of isobutane and concentrated sulfuric acid is placed into the reactor. This mixture is agitated by means of indicated agitating equipment. The olefin or olefins are gradually added over a period of several hours to the mixture of isobutane and sulfuric acid which is maintained at the desired temperature. After the desired amount of olefins has been added, the acid is removed and the hydrocarbon phase is drawn into the stabilizer pot which contains a small amount of caustic soda to neutralize any entrained acid. The unconverted isoparaffin and olefin or olefins and inert materials are removed in the fractionating column while the contents of the stabilizer pot are gradually reduced to a stable or low-pressure condition. An idea of the general character of the small-scale alkylation equipment may be gained by reference to Figs. 7, 8 and 9 which are pictures of reactors, stabilizers, and the small stills used in the laboratory work. We shall not dwell on the operation of this equipment more than to state that it was found by experiments therein that certain important variables had to be controlled for optimum results. It was found that it was necessary to use a substantial excess of isobutane and to add the olefin feed stock at a slow rate in order to promote alkyla-

DIAPHRAGM MOTOR VALVES

PILOT OPERATED

for Refineries and Natural Gasoline Plants



No. 14B Diaphragm Motor Valve Direct Acting, Normally Open with No. 2G Inner Valve.

No. 14C Diaphragm Motor Valve Direct Acting, Normally Open with No. 2C Inner Valve.

No. 14C is shown above. Note that the adjustment nut is located inside the weatherproof yoke cover where it cannot be changed by unauthorized persons.

SMOOTH operation . . . sensitive action . . . and rugged construction are some of the features you will like about Davis' advanced line of Diaphragm Motor Valves for pilot or instrument controlled valve installations. These include both direct and reverse acting types for steam, air, gas, oil, or water lines using pressure, temperature, or liquid level as the controlling factor. Standard valves are available in bronze, semi-steel, or steel with trim of bronze, nickel iron, monel or stainless steel. Chrome alloy steel bodies with special alloy trim are available on order. Standard construction features include parabolic, square, or V-ported semi-balanced inner valves, stainless steel stems and ball bearing adjustment nuts.

No. 14B, illustrated above, is designed for either indoor or outdoor installation. It has multiple springs for maximum sensitivity and all moving parts are enclosed. Ball bearing stem guides reduce friction to a minimum. Valve stem lubricator and valve position indicator are regularly furnished.

WRITE

YOUR request for information and quotations will receive prompt attention. Catalog on request.

●

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tion and to avoid undesirable polymerization. It was also found that the use of sulfuric acid with a concentration in excess of 90 per cent H_2SO_4 was necessary to promote a satisfactory reaction. With this information as a basis a pilot plant was designed and constructed.

Pilot-Alkylation Plant

The general features of the pilot plant are shown in Fig. 10 and some idea of its size may be gained from Figs. 11, 12, 13 and 14.

On reference to Fig. 10 we see that in the pilot plant the unsaturated feed stock, which is an overhead from the refinery pressure-distillate stabilizer, and the isobutane feed, which is an overhead fraction from the natural-gasoline stabilizer, are placed in separate feed tanks. These two materials are pumped independently into a circulating stream composed of the inert hydrocarbons contained in the feed stocks, excess isobutane, and the alkylation product. This stream is circulated through a cooler and meter, and it

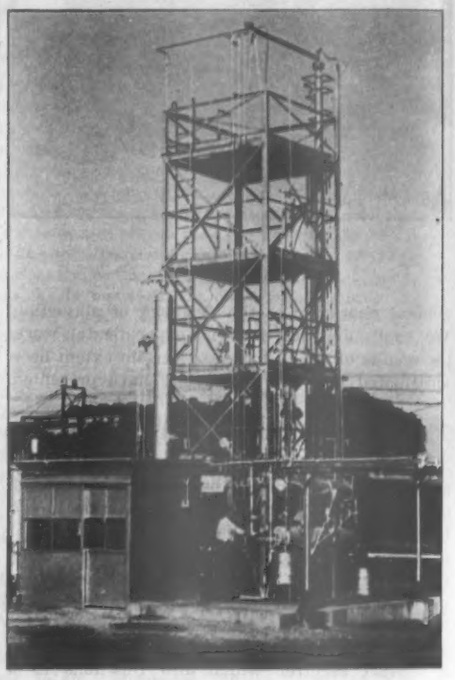


Fig. 12

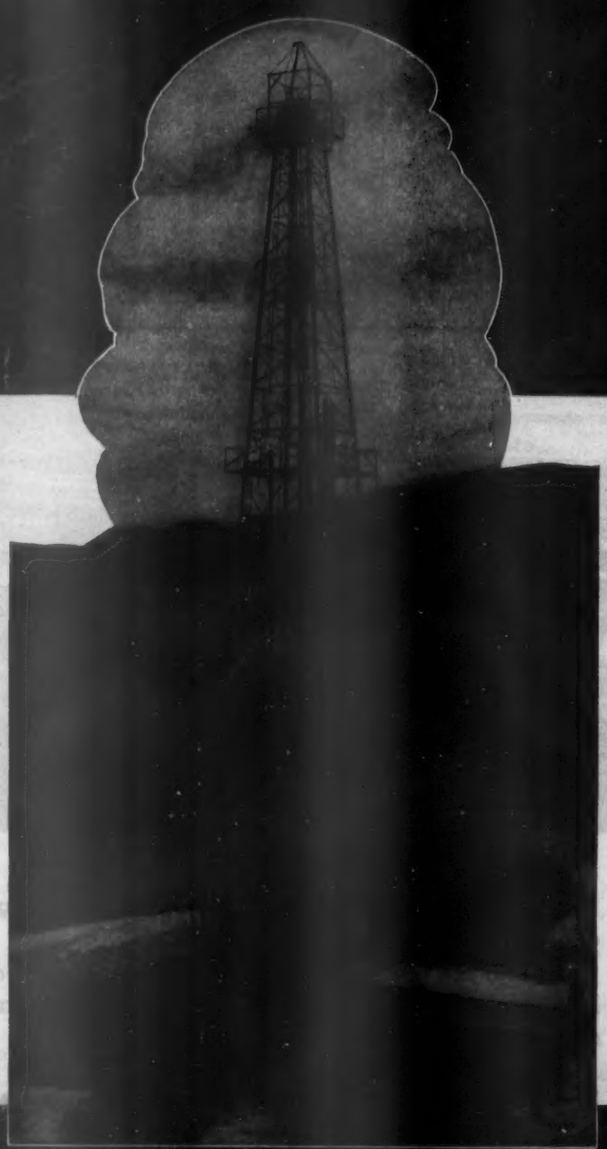
is brought into contact with the acid stream which is withdrawn from the settling tank. The mixed stream of acid, circulating stream and feeds, is passed through an orifice mixer into a settling tank where separation into hydrocarbons and acid phases occurs. From there on the cycle repeats itself. The circulating system and settling tank are completely filled with liquid and therefore the introduction of feeds into this system causes a corresponding amount of circulating stream containing the alkylation product to pass through the caustic scrubber and back-pressure valve into the product tank. The product is periodically drawn from the product tank into the stabilizer pot and is stabilized therein by removal of the light fractions of inert material and excess isobutane through the stabilizer column.

Fig. 11 is a picture of one of the tank trailers used in the transportation of isobutane and olefinic feed stocks from the refinery stabilizer to the pilot-alkylation plant. Fig. 12 is a picture of the pilot-alkylation plant showing the structure required to support the stabilizer column. Fig. 13 shows the arrangement of the feed tanks, some of them holding isobutane and some the unsaturated or olefinic feed stock. Fig. 14 shows product tank and stabilizer pot.

(Continued Next Week)

SIGNS OF CIVILIZATION AT THE END OF MANY A TRAIL

Because PARKERSBURGS *are Usually Picked to Drill "Problem" Jobs*



Did you ever notice the high percentage of remote wildcat locations that are drilled with Parkersburg Derricks . . . and, if so, did you ever stop to wonder why? Here's the logical answer:

When you've got a small fortune invested in a rank wildcat in one of those "end of the trail" places where anything can happen . . . and sometimes does . . . it's a grand feeling to know that your equipment is master of the situation. The operators of the Louisiana jungle location (above) and the New Zealand job (left) know their situation is well in hand, as far as derrick strength is concerned. And other operators in jungles, mountains, deserts, swamps and water locations the world over have that same feeling of satisfaction about Parkersburg Derricks. That's why Parkersburgs have been chosen to drill most of the world's deepest wells and other problem jobs where emergencies, common to abnormal drilling, are likely to occur.

The design and construction of Parkersburg Derricks call for a reserve strength far beyond their rated capacity. Furthermore, their ruggedness assures a longer working life in ordinary service.

Why not call your Parkersburg representative for that next location?

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THE PARKERSBURG RIG AND REEL CO.

A-2-39

SAFETY – Pipe Shoe Protects Dead Line

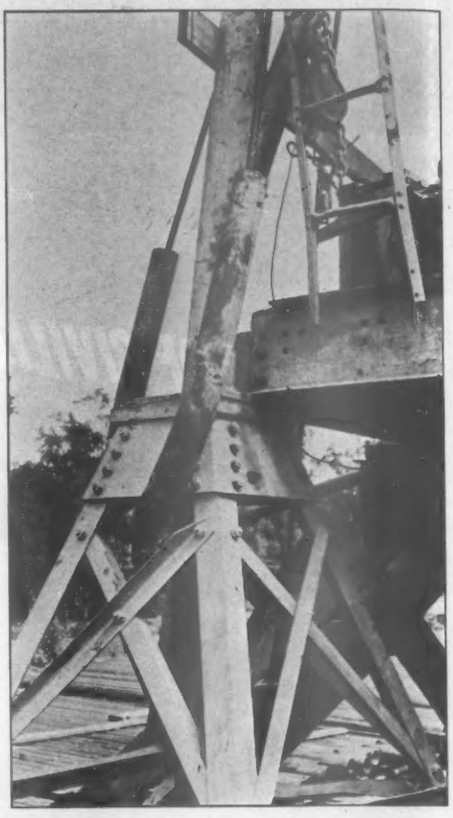
ATTACHING the dead line on rotary rigs continues to be a problem, particularly since the adoption of substructure derricks and the redesign of the V-doors. The former method was to pass the line around the mud sill about midway between the V-door and the derrick corner; the mud sill was then braced by an 8 by 10-in. timber from the mud sill to the framing sill and from the derrick floor to the first girt. The load was thus distributed fairly well between the derrick legs on the V-door side.

A common method used where a concrete platform is built for the substructure is to place one or several joints of junk 6⅝-in. drill pipe under the V-door side with the ends being located under the derrick corners. The drilling line can then be passed under the pipe, the concrete forms being built to allow a slot for this purpose. Another practice has been to place the anchor pipe through an elevator link or sea link, one end of which projects beyond the surface of the concrete.

In many cases piers are run for the corners only and the use of the anchor pipe becomes inadvisable because of the lack of the reinforcing concrete. The dead line is then fastened to the corner of the derrick. This has one serious disadvantage from the safety angle due to the load on the derrick being unequally distributed on the legs.. The derricks are rated with the assumption that the load will be approximately evenly distributed and in cases where one member is severely overloaded, failure might result. In many cases the operator has no other alternative than to use the corner for the anchoring of the dead line.

This in itself presents a problem as the line must be protected from cutting. Some drillers use a timber placed beneath the corners to prevent the lines coming in contact with the steel structure although this is not satisfactory unless the timber is securely fastened to keep it from working loose. The accompanying photograph shows a method devised by a Texas contractor for protecting the dead line when anchoring on the corner.

A short section of 3-in. drill pipe is bent to take the shape of a U having a 2-ft. radius and hooked around the cap of the foundation pier where it is free to shift and thus is self-aligning. The cable is carried smoothly around the curve and is not cramped or distorted while the strain on it is readily equalized between the free end and the standing end of the cable. The pipe is well lubricated to permit the cable to adjust itself easily and a small hole at the bottom of the U permits the escape of water which might enter the pipe.



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QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph. D., Technical Editor

Compression and Cooling Method For Determining Gasoline in Gas

Could you furnish an outline, or general principles, of the method used for finding the gasoline content of natural gas by means of portable machinery? What I mean is just an explanation of the unit which is in use and how it works.—H. Q. C.

There is a method approved by the Natural Gasoline Association of America for the determination of the gasoline content of natural gas, which utilizes compression and cooling for reducing any gasoline in the gas to the liquid condition.

The essential parts of the unit, and their functions are:

Vacuum pump.—This is of the crosshead type that has a capacity sufficient to maintain a meter pressure of 4 oz. per sq. in., or a pressure agreed upon, with the compressor running at rated speed.

Test meter.—Positive-displacement type with capacity not to exceed 180 cu. ft./hour, at 0.5 in. water differential, provided with index dial scaled to 1/100 cu. ft., manometer for showing operating pressure, and a thermometer.

Compressor.—Crosshead type with capacity at discharge pressure 250 lb./sq. in. gage of not less than 2.5 cu. ft. per minute at 4 oz. above atmospheric pressure.

Cooling coil.—Half-inch copper tubing of wall thickness 0.045 in. maximum and 35 ft. long, set at 0.5 in. drop per foot in a water-cracked ice bath. The bath shall be held at 32°-40° F.

Accumulator.—Water-jacketed type cooled with water from condenser box (cooling coil bath) circulating. The discharge shall not exceed 40° F. The capacity of the accumulator shall be at least 1 qt. or 946 cc.

Scrubbers.—These are placed on both intake and discharge sides of the vacuum pump to protect the meter, etc., from oil, dust, and other materials. The arrangement of the apparatus is in order of the gas flow, shown in Diagram No. 1. Intake scrubber, vacuum pump, scrubber, manometer, meter, thermometer, compressor, condensor coil in bath, and accumulator. The several parts are connected by means of short pieces of pipe, tubing or rubber hose.

Test procedure.—A preliminary charge of at least 20 cu. ft. of the gas is run through the unit with 265 lb./sq. in. gage on the accumulator. After this volume has passed through the unit any condensate is blown from the accumulator, without reducing the pressure below 250 lb. The test is then started by quickly closing the accumulator drawoff and simultaneously noting the indication on the gas meter. A volume of 13.21 cu. ft. or 26.42 cu. ft., of the gas at 4 oz. above atmospheric pressure and 60° F. is run through the unit at 2 to 2.5 cu. ft. per minute. The flowing temperature is recorded as that indicated by the meter thermometer midway through the test. Other conditions may be used by agreement. A constant pressure of 250 lb. shall be maintained by operating the escape valve set on top of the accumulator. The unit is shut down when the required volume has passed. The pressure is reduced at the rate of 25 to 50 lb. per minute by venting of residue gas.

The condensate is withdrawn from the accumulator into a graduate and the volume and temperature immediately determined. The temperature of the condensate is then raised at the rate of 2° F./minute to 60° F. The liquid hydrocarbon residue thus obtained shall be considered the natural-gasoline content of the gas.

Computation of yield.—For 13.21 cu. ft. sample, as corrected for temperature and pressure, the yield per 1,000 cu. ft. is obtained by multiplying the cc. of gasoline residue at 60° F. by the factor 2 and dividing the product by 100. For 26.42 cu. ft. the cc. of residue is divided by 100.

For gallons per million cu. ft. the formula is

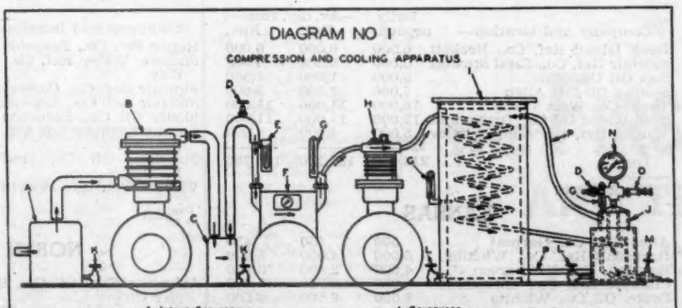
$$X = \frac{264.2\ B}{A}$$

Here A is corrected volume used in cubic feet; B is the cc. of residue and X is gallons of natural gasoline per million cubic feet of gas.

References: Natural Gasoline Association of America, Code, Jan. 1939. The Natural Gasser, Aug. 1939, p. 3.

DIAGRAM NO 1

COMPRESSION AND COOLING APPARATUS



A- INTAKE SCRUBBER
B- VACUUM PUMP
C- INTERMEDIATE SCRUBBER
D- BLOW-OFF VALVE
E- MANOMETER
F- METER
G- THERMOMETER
H- COMPRESSOR
I- CONDENSER
J- WATER JACKETED ACCUMULATOR
K- DRAIN VALVE
L- WATER DRAIN VALVE
M- GASOLINE DRAIN VALVE
N- GUAGE
O- POP VALVE
P- WATER LINE

Determination of Ash Content of Petroleum Oils

I would like to know of a method which can be used for determining the ash content of heavy bottoms from fractionating towers.—A. G. C.

The American Society for Testing Materials has prepared the directions of a tentative method for the determination of ash in petroleum oils. The method is summarized here.

A porcelain dish or crucible, 50 to 100 ml. capacity, is heated to redness, cooled and weighed. About 20 gm. of the sample is placed in the dish and then weighed to 0.1 gm.

Slowly heat over a bunsen burner until the oil can be ignited. The burner is then removed and the oil allowed to burn away. Burn off any free carbon on the sides of the dish, then heat over a strong flame or in a furnace until all carbon has disappeared. Cool and weigh. Ignite, cool and weigh again. Repeat until weight is constant. Accepted quantitative technique should be observed.

The weight of the residue expressed as a percentage of the original sample shall be reported as the ash percentage.

Reference: A.S.T.M. Standards on Petroleum Products, Sept. 1939, p. 30.

Standard Specifications Covering Domestic Fuel-Oil Burners

What are the specifications which have been adopted as standard for burners used in connection with fuel-oil installations for domestic heating furnaces? It is our understanding that such burners must meet specific designs which are issued by the Government.—G. D. S.

The U. S. Government does not, so far as we are informed, prepare designs for a standard fuel-oil burner. The national Bureau of Standards, through the Oil Burner Industry Standards Committee, has prepared certain standards for oil burners manufactured for domestic heating units. These are of a general nature as indicated in this summary.

The standard includes general requirements, manufacturing and production tests, laboratory requirements and test procedure, installation requirements and performance tests, oil burner certificate.

The burner unit includes a long-hour motor, practically continuous operation under full open-air adjustment with maximum size fan and oil pressure recommended by the manufacturer. The operation shall be quiet with no unreasonable radio interference. Each burner shall operate at not less than 100 lb. per sq. in. oil pressure for high atomization burners and for others the burner shall operate at the maximum recommended by the maker. It shall be capable of maintaining 10 per cent carbon dioxide in the flue gas without visible smoke, within the rated capacity. The performance shall be not less than 8 per cent in the flue gas. It shall operate on the heaviest grade of fuel oil which is approved by the Underwriter's Laboratories, when tested at minimum and maximum firing rates.

"The test procedure shall begin with the manufacturer's minimum rating and continue in steps of not more than 1 gal./hour to the maximum rating. The flue-gas sample for analysis shall be taken at the boiler or furnace flue-gas outlet. The draft valve in the combustion chamber for this test shall be in accordance with the manufacturer's specifications. This same draft valve shall be used in determining the maximum burning rate. In determining maximum burning rates for full mechanical draft burners, all air for combustion shall be supplied by the burner fan or blower. Where maximum burning rates are designated by manufacturer, with partial mechanical draft, such maximum burning shall be qualified in terms of minimum draft and port area in manufacturer's manuals, rating and instruction sheets. Where burners are designed for partial mechanical draft, the maximum burning rates shall be qualified in terms of minimum draft and port area in manufacturer's manuals, rating and instruction sheets."

Reference: National Bureau of Standards, Commercial Standards, Automatic Mechanical Draft Oil Burners Designed for Domestic Installations, CS 75-39.

Mid-Continent Crude Runs Will Be Reduced in December

ESTIMATED daily refinery crude runs in the Mid-Continent area will be reduced substantially in December, with a net reduction of 12,145 bbl. over November. Total crude runs for the month are reported to be 525,230 bbl. compared with 537,375 bbl. for last month and compared with 524,033 bbl. one year ago. The largest single reduction in crude runs was made in Kansas which shows a decrease of over 8,000 bbl. While daily crude runs to stills were reduced generally over the balance of the Mid-Continent area, North Louisiana and Arkansas have increased their activity considerably over last month.

Oklahoma

Reports for Oklahoma indicate very little reductions in daily crude runs to stills, with a total of 152,100 bbl. scheduled to be run in December, compared with 153,700 bbl. in November, a decrease of 1,600 bbl. One year ago Oklahoma crude runs were 141,125 bbl. This increase over last year is due to an unusual demand for refined products.

Kansas

Estimated daily crude runs for Kansas show a reduction of 8,050 bbl. for December, after a slight increase in November over the previous month. Major reductions were reported by the Barnsdall refinery at Wichita, which cut its daily runs by 1,000 bbl.; Falcon Refining Co., Great Bend, reduced 1,000 bbl.; and the Globe Oil & Refining Co., McPherson, which reports a reduction of 5,000 bbl. daily. Total crude runs for the month are estimated at 120,050 bbl. daily. Total crude runs for the previous month were 128,100 bbl.

North Louisiana and Arkansas

Estimated daily crude runs in the North Louisiana and Arkansas area show a decided upturn in December. In Arkansas crude runs were stepped up a total of 1,900 bbl. and in North Louisiana, 200 bbl. The increase in Arkansas is accounted for by an increase of 2,000 bbl. at the Lion Oil & Refining Co., Smackover. Other plants in that area are maintaining schedules set in November with the exception of the Berry Asphalt Co. refinery at Waterloo, which cut its runs 100 bbl. daily. In North Louisiana all plants are holding November schedules with the exception of the Premier Oil & Refining Co.'s Cotton Valley plant, which has increased its activity by 200 bbls. daily. Total runs for the two areas were: North Louisiana 41,100 bbl., compared with 40,900 bbl. in November; and in Arkansas, 29,200 bbl., which compared with 27,300 bbl. for the previous month.

East Texas

East Texas refineries show small decreases generally, with the exception of the East Texas Refining Corp. plant at Longview, which has increased crude runs by 600 bbl. daily. Premier Oil Refining Co. of Texas also increased crude runs in December. Total for the month is 44,100 bbl., compared with 44,500 bbl. in November.

West Texas and Panhandle

In the West Texas and Panhandle area estimated daily crude runs were practically unchanged with a total for the month of 82,800 bbl., compared with 84,975 bbl. in November. There were no great cuts in schedules made at any one plant but a general reduction was noted over the entire area.

Southwest Texas

Refineries in the Southwest Texas district report a total of 17,650 bbl. to be processed daily in December. This compares with a total of 17,800 bbl. in November. Two plants show a reduction in daily crude runs with one reporting an increase, resulting in a net decrease of 150 bbl. for the month.

North Central Texas

In the North Central Texas area crude runs total 38,230 bbl. for December, compared with 39,380 bbl. in November. Refiners in Gainesville are now operating at their highest rates in years due to opening of flush production in the new fields of Montague and Cooke counties; these being the Voth, 10 miles west of Gainesville, and the Rogers & Rogers pool in Montague County, and also the Bowers pool in Cooke County. Elsewhere in the North Texas area refiners show slight decreases to bring the total for the month down from 39,380 bbl. in November to 38,230 bbl. in December.

Mid-Continent Crude Runs

Average Daily Barrels

(Advance estimate compiled by The Oil and Gas Journal)

	1937	1938	1939
January	531,535	529,710	503,405
February	541,790	507,985	494,910
March	533,875	491,935	497,180
April	558,385	532,120	523,535
May	572,855	527,315	534,535
June	593,625	540,005	541,090
July	605,640	557,520	550,755
August	624,475	554,810	556,095
September	625,485	555,695	550,830
October	619,210	531,325	547,725
November	592,170	524,035	537,375
December	544,040	503,530	525,230

Operations by Refinery Districts

Daily crude runs

	Dec.	Nov.	Decr.
Arkansas	29,200	27,300	*1,900
East Texas	44,100	44,500	400
Kansas	120,050	128,100	8,050
N. Central Texas	38,230	40,100	1,870
North Louisiana	41,100	40,900	*200
Oklahoma	152,100	153,700	1,600
Southwest Texas	17,650	17,800	150
W. Texas Panhandle	82,800	84,975	2,175
Total	525,230	537,375	12,145

*Increase.

Estimated Daily Average Mid-Continent Refinery Crude Runs for December

OKLAHOMA

Company and location—	Daily capacity	Av. dly. runs Dec.	Av. dly. runs Nov.
Anderson-Prichard Ref. Corp., Cyril	8,000	6,500	6,500
Barnsdall Ref. Corp., Barndall	5,000	3,500	4,000
Bell Oil & Gas Co., Granfield	5,000	3,000	3,000
Ben Franklin Ref. Co., Ardmore	5,000	4,000	4,000
Black Gold Ref. Co., Oklahoma City	2,500	1,700	2,000
Champlin Ref. Co., Enid	16,000	15,000	15,000
Cities Service Oil Co., Okmulgee	4,000	(*)	(*)
Cities Service Oil Co., Ponca City	12,000	8,000	8,300
Continental Oil Co., Ponca City	28,000	19,500	19,500
Cushing Ref. & Gasoline Co., Cushing	4,200	3,500	3,500
Deep Rock Oil Corp., Cushing	10,000	9,000	9,000
Johnson Oil Ref. Co., Cleveland	6,000	5,000	5,000
Mid-Continent Pet. Corp., Wes Tulsa	35,000	21,000	21,000
Ohio Oil Co., Bristow	5,000	2,500	2,500
Omar Ref. Co., Garber	5,000	2,500	2,700
Phillips Pet. Co., Okmulgee	6,000	5,500	5,700
Peppers Gasoline Co., Oklahoma City	500	400	400
Rock Island Ref. Co., Beckett	6,500	6,000	6,000
Sinclair Ref. Co., Sand Springs	6,000	4,500	4,500
Sun Oil Co., Yale	5,000	1,500	1,500
Sunray Oil Co., Allen	7,000	3,500	3,600
Texas Co., West Tulsa	16,000	11,000	11,000
Tide Water Oil Co., Drumright	12,000	11,000	11,000
Wilcox Ref. Division, Bristow	5,000	4,000	4,000
Total	214,700	152,100	153,700

*Shut down.

KANSAS

Company and location—	Daily capacity	Av. dly. runs Dec.	Av. dly. runs Nov.
Anco Ref. Co., Garnett	500	450	450
Barnsdall Ref. Co., Wichita	5,000	4,000	5,000
Bay Pet. Co., McPherson	4,000	2,800	3,000
Chanute Ref. Co., Chanute	1,000	750	1,000
Derby Oil Co., Wichita	8,000	6,500	6,500
El Dorado Ref. Co., Eldorado	5,000	4,000	4,500
Falcon Ref. Co., Inc., Great Bend	1,000	1,400	1,500
Globe Oil & Ref. Co., McPherson	15,000	10,000	15,000
Kanotex Ref. Co., Arkansas City	12,000	7,000	7,000
National Ref. Co., Coffeyville	8,000	4,500	5,000
Pet. Products Co., Chanute	1,250	1,000	1,750
Phillips Pet. Co., Kansas City	23,000	15,800	16,000
Roper Pet. Co., Parsons	750	350	400
Shallow Water Ref. Co., Scott City	2,000	1,000	1,000
Sinclair Ref. Co., Coffeyville	12,000	8,500	8,500
Sinclair Ref. Co., Argentine	11,000	8,500	8,500
Skelly Oil Co., Eldorado	23,000	20,000	20,000
Socony-Vacuum Oil Co., Inc., Augusta	20,000	13,000	13,000
Standard Oil Co. (Indiana), Neodesha	7,500	7,000	7,000
Vickers Pet. Co., Potwin	4,000	3,500	3,000
Total	164,000	120,050	128,100

NORTH LOUISIANA

Company and location—	Daily capacity	Av. dly. runs Dec.	Av. dly. runs Nov.
Arkansas Fuel Oil Co., Bossier City	25,000	20,000	20,000
Atlas Pipe Line Co., Shreveport	12,500	6,000	6,000
Bayou State Oil Corp., Hosston	750	600	600
East Texas Ref. Co., Sandra	7,000	(*)	(*)
Pennant Ref. Co., Princeton	750	500	500
Premier Oil Ref. Co. of Texas, Cotton Valley	3,500	3,000	2,800
Rodessa Oil & Ref. Corp., Cedar Grove	12,000	8,500	8,500

Company and location—	Daily capacity	Av. dly. runs Dec.	Nov.
Stanolind Oil & Ref. Co., Superior	5,000	2,500	2,500
Texas Co., Shreveport	7,000	(*)	(*)
Total	73,500	41,100	40,900

*Shut down.

ARKANSAS

Berry Asphalt Co., Waterloo	2,000	1,000	1,100
Henry H. Cross, Smackover	6,000	3,000	3,000
Lion Oil Ref. Co., El Dorado	17,000	15,000	13,000
Macmillan Pet. Corp., Norphlet	2,500	2,000	2,000
Root Ref. Co., El Dorado	10,000	8,000	8,000
Stephens Ref. Co., Stephens	700	200	200
Total	38,200	29,200	27,300

EAST TEXAS

Beacon Oil & Ref. Co., Henderson	4,500	(*)	(*)
Danciger Refs., Inc., Longview	6,000	(*)	(*)
East Texas Ref. Corp., Longview	6,000	5,000	4,400
Gladewater Ref. Co., Gladewater	3,000	2,500	2,500
Hurricane Pet. Corp., Overton	5,000	4,000	4,000
Hurricane Pet. Corp., Arp.	3,300	2,200	2,200
Independent Ref. Co., Arp.	3,500	2,200	2,200
Lynch Ref. Co., Kilgore	3,000	2,500	2,500
Magnolia Pet. Co., Corsicana	5,000	4,000	4,500
McMurrey Ref. Co., Tyler	10,000	3,500	3,500
Model Oil & Ref. Co., Kilgore	2,000	(*)	(*)
Premier Oil Ref. of Texas, Greggtown	4,000	3,000	2,900
Talco Asphalt & Ref. Co., Mount Pleasant	7,500	5,000	5,000
Texas Co., Dallas	16,000	7,500	8,000
Tower Ref. Co., Overton	3,500	(*)	(*)
Travis, M. M., Inc., Kilgore	4,000	2,700	2,800
Total	86,300	44,100	44,500

*Shut down.

NORTH CENTRAL TEXAS

Baird Refining Co., Baird	1,500	1,000	1,200
Bryson Pipe Line & Refining Co., Bryson	2,000	1,200	1,200
Bryson Ref. Co., Inc., Bryson	1,500	500	800
Coleman Ref. Co., Coleman	1,000	400	400
Continental Oil Co., Wichita Falls	6,000	4,930	4,680
Cosden Pet. Corp., Graham	2,000	1,300	1,300
Falls Ref. Co., Wichita Falls	2,500	300	500
Gratex Ref. Co., Graham	300	300	300
Gulf Oil Corp., Fort Worth	8,000	6,000	6,000
Hightower Oil & Ref. Corp., Brownwood	750	(*)	(*)
Jacksboro Ref. Co., Jacksboro	400	200	250
La Salle Pet. Corp., Burkburnett	3,000	1,500	1,300
Magnolia Pet. Co., Fort Worth	7,500	5,500	5,300
Muenster Ref. Co., Muenster	1,800	800	800
North Texas Ref. Co., Gainesville	1,000	700	300
Ohio Oil Co., Fort Worth	5,000	4,000	4,000
Olney Oil & Ref. Co., North Olney	3,500	1,000	1,800
Paluxy Asphalt Co., Mankins	1,500	(*)	1,200
Panhandle Ref. Co., Wichita Falls	4,200	2,500	2,500
Panhandle Ref. Co., Lueders	1,500	850	850
Southland Ref. Co., Olney	500	300	320
Taylor Ref. Co., Taylor	1,000	600	600
Texas Pacific Coal & Oil Co., Caddo	800	600	600
Tucker Oil Co., Burkburnett	250	20	50
Tydol Ref. Co., Gainesville	2,000	400	350
W. T. Waggoner est., Vernon	6,000	3,330	3,500
Total	64,500	38,230	39,380

*Shut down.

SOUTHWEST TEXAS

Border Oil & Ref. Co., Sullivan City	1,000	450	500
Eggleston Oil Products Co., Three Rivers	1,000	800	1,000
Humble Oil & Ref. Co., San Antonio	5,000	3,500	3,500
Magnolia Pet. Co., Lulling	8,000	5,000	5,000
Pettus Oil & Ref. Co., Pettus	1,000	900	800
Phoenix Ref. Co., San Antonio	2,000	1,500	1,500
Phoenix Ref. Co., Pettus	900	750	750
Pioneer Oil & Ref. Co., Somerset	2,000	750	750
Radio Ref. & Prod. Co., McAllen	800	500	500
Texas Co., San Antonio	5,000	3,500	3,500
Total	26,700	17,650	17,800

WEST TEXAS AND PANHANDLE

Aero Gas & Ref. Co., Fort Stockton	350	300	300
Coltex Ref. Co., Colorado	12,500	8,000	8,000
Cosden Oil Co., Big Spring	12,500	10,000	11,000
Danciger Refs., Inc., Pampa	6,500	4,500	5,000
Danube Oil Corp., Borger	800	400	400
Farmers Ref., Lubbock	500	300	300
Gulf Oil Corp., Sweetwater	7,000	6,000	6,200
Howard County Ref. Co., Big Spring	2,000	1,000	1,000
Motor Fuels Corp., Levelland	4,000	2,000	2,000
Moutray Oil Co., Hawley	1,200	900	900
Onyx Ref. Corp., Hawley	3,000	1,500	1,500
Payward Ref. Co., Shamrock	600	400	475
Phillips Pet. Co., Borger	35,000	26,600	26,700
Post Refining Co., Rotan	800	400	450
Shamrock Oil & Gas Corp., Sunray	3,000	1,800	2,000
Stamford Ref. Co., Stamford	450	400	400
Shamrock Oil & Gas Corp., Lefors	1,600	1,000	1,000
Standard Oil Co. of Texas, El Paso	14,000	8,500	8,500
Star Light Ref. Co., Ballinger	1,000	500	500
Texas Co., El Paso	2,000	1,600	1,600
Texas Co., Amarillo	6,000	4,000	4,000
Western Ref. Co., Fort Stockton	1,000	700	750
Wickett Pet. Co., Wickett	3,500	2,000	2,000
Total	119,300	82,800	84,975

Turner Valley to Lakes Pipe-Line Calculations

CALGARY, Alta.—Walter S. Campbell, member of the Alberta delegation which visited England earlier in the year to arrange wider markets for Alberta crude, recently outlined plans for the proposed pipe line from Turner Valley to Port Arthur, at the head of the lakes.

Tentative plans call for a 12¾-in. line to cost $35,000,000 including cost of terminal storage at Port Arthur and a heating system for the oil in transit. It is estimated that crude could be transported by pipe line and Great Lakes tanker to Sarnia and Toronto for 56 cents a barrel, permitting Alberta to compete with imported crude while maintaining present field prices. The 56-cent rate is based on a daily supply of 60,000 bbl. at Turner Valley; with deliveries to Port Arthur of 35,000 bbl. daily, after supplying markets along the route. The rate allows for working profit and amortization over 12½ years, and includes 3 cents gathering charge, 2½ cents handling, 40 cents pipe-line transportation and 10 cents water transportation.

Suit for Chain-Store Tax

AUSTIN, Tex.—Atty. Gen. Gerald C. Mann announced he would file a suit in Big Spring seeking to collect $2,288 in chain store taxes from Standard Oil Co. of Texas. He said his petition will ask taxes on 20 filling stations allegedly operated by the company for the last 4 years in El Paso and other West Texas towns.

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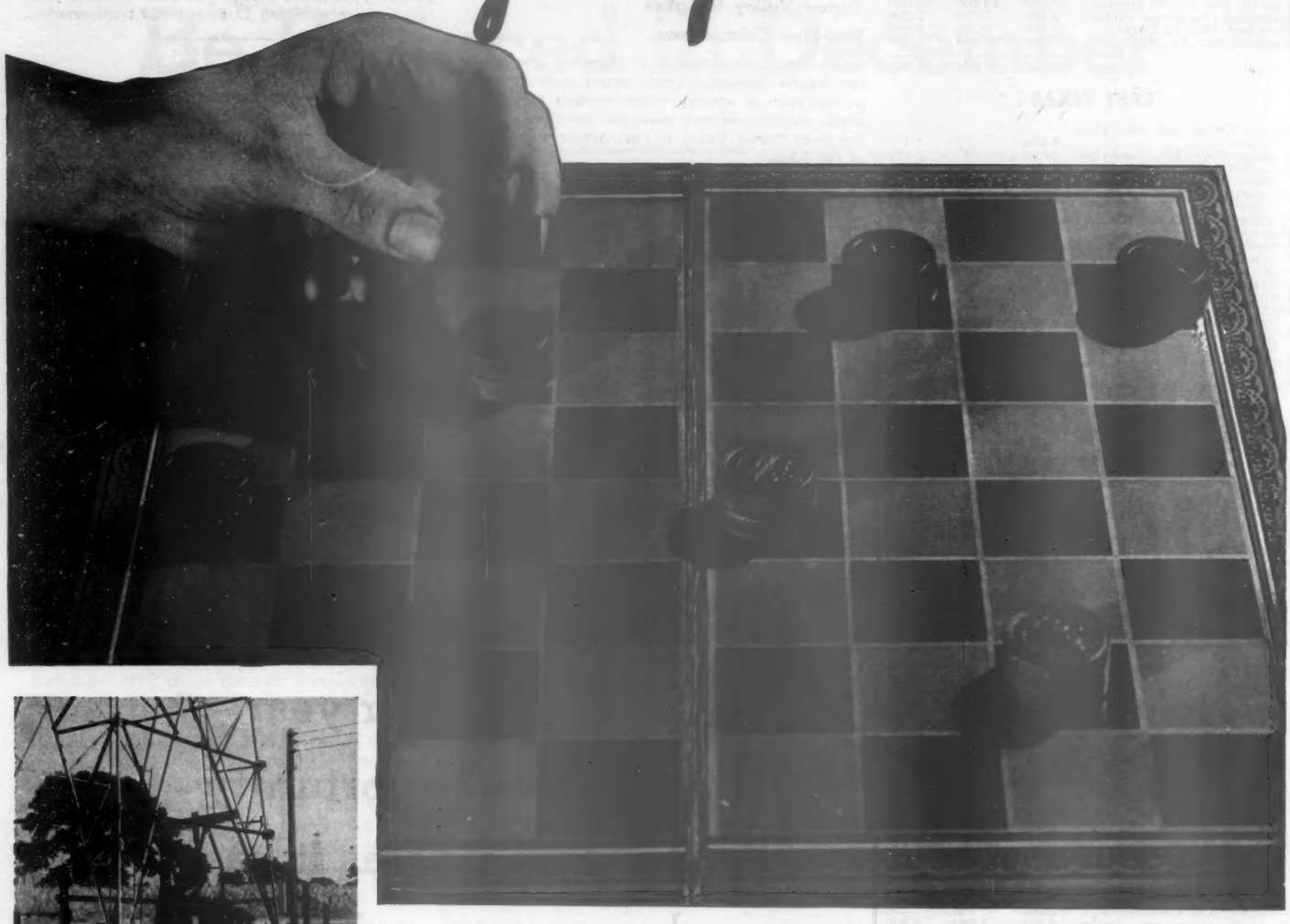

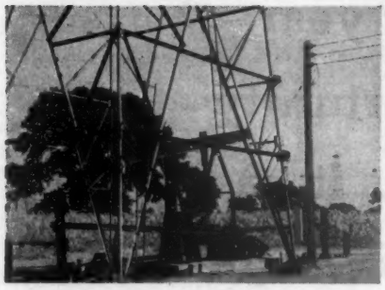

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FIELD OPERATIONS

Summarizing the Week's Developments

OKLAHOMA—An extension well ½ mile east of the Frederick field, Tillman County, was completed. Another well on the north side of that field was completed in a new producing zone. A deep wildcat in Canadian County was showing gas. Salt-water intrusion threatened important wildcats in Marshall and Cleveland counties. A well in the Cement field, Caddo County, made potential of 5,070 bbl.

KANSAS—A wildcat in northeastern McPherson County had an oil showing in Mississippi chat to indicate the opening of a new pool. An outpost ½ mile north of the Stoltenberg pool, Ellsworth County, had oil standing in the hole. Extension wells were completed in the Westhusin area, Rooks County; South Burnett and Walters pools, Ellis County, and Bredfeldt pool, Rice County.

NEBRASKA—The Nebraska discovery well near Falls City, Richardson County, in its first attempt failed to qualify for the $15,000 state bonus by failing to produce as much as 50 bbl. daily for 60 consecutive days. Production dropped to 35 bbl. on the twentieth day of the test, supposedly due to a clogged hole. Operators planned to recondition the hole and continue the production test.

TEXAS: Gulf Coast—Oil and gas showings below 7,959 ft. were reported in a wildcat in Newton County, which adjoins Louisiana. Two Anchor field, Brazoria County, outposts have reached critical depths. A third producing sand was opened in West Ranch field in Jackson County.

Southwest Texas—A pool was opened 3 miles north of Rio Grande City, Starr County, producing from a 2,700-ft. horizon. East White Point field was extended 2,000 ft. westward.

West Texas—A 3½-mile extension to the Cedar Lake field in Gaines County is probable as the outpost has been showing saturation from 4,765 to 4,864 ft.

Central Texas—Two shallow pools were opened in Shackelford County. The old Noodle Creek pool in Jones County was extended ½ mile by a 200-bbl. well at 2,373-79 ft.

North Texas—The fourth deep pool in Clay County was discovered by a well that started at 2,000 bbl. a day from Smithwick lime at 5,350-5,400 ft. The Walnut Bend pool in Cooke County is assured a ½-mile extension.

MICHIGAN—A 4,000-bbl. well was completed in the Tallmadge area in Ottawa County, producing from the Traverse pay. It had been acidized. A well in Monroe County started at 50 bbl. per hour and settled to 300 bbl. per day, producing from Trenton lime.

ILLINOIS—Several unusually good initial producers in Richland and Marion counties increased Illinois production in the past week. Devonian-lime tests are bobbing up in various southern counties, and a test to the St. Peter sand (the Wilcox of Oklahoma) was started in Clay County.

Completions in All Fields

(Week Ended December 9, 1939)

	Oil	Gas	Dry	Total	1939 total comp. to date	1938 total comp. to date
N. Y., Pa., and W. Va.	61	11	7	79	3,107	3,332
Ohio	1	9	10	20	989	928
Indiana	2	1	6	9	324	132
Kentucky	6	0	5	11	667	848
Illinois	66	0	15	81	3,478	2,028
Michigan	13	1	15	29	1,369	891
Kansas	24	0	7	31	1,279	1,510
Oklahoma	23	3	17	43	1,647	1,604
Texas:						
North Central Texas	23	0	14	37	2,270	2,893
West Texas	45	0	2	47	1,784	1,854
Texas Panhandle	9	2	0	11	416	532
East Texas	6	0	0	6	372	1,667
East Central Texas	3	0	2	5	80	331
East Texas Border	0	0	0	0	252	126
Gulf Coast Texas	25	1	5	31	1,265	1,246
Southwest Texas	22	3	11	36	2,103	2,056
Total Texas	133	6	34	173	8,542	10,705
North Louisiana	5	2	7	14	494	592
Gulf Coast Louisiana	11	0	4	15	663	463
Total Louisiana	16	2	11	29	1,157	1,055
Arkansas	2	1	3	6	238	234
Montana	4	0	1	5	159	103
Wyoming	2	0	0	2	125	148
Colorado	0	0	0	0	13	13
New Mexico	5	0	1	6	559	533
Utah	0	0	0	0	0	3
California	16	0	7	23	888	1,211
Total United States	374	34	139	547	24,541	25,278
Total previous week	394	53	133	580		
Week ended Dec. 10, 1938	365	50	111	526		

Outstanding Fields—Highlights

(Week Ended December 9, 1939)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	29	51	7	8,598	1,193	31,389
Wasson-Bennett	14	75	17	12,642	549	20,967
Ector County	7	69	14	16,383	1,954	58,286
Pecos County	9	22	2	185	1,217	38,800
Jones County	8	17	2	1,937	592	8,200
East Texas	6	18	6	173	26,139	494,997
OKLAHOMA						
St. Louis	10	32	2	110	908	29,250
Cement	4	17	3	1,130	277	6,000
KANSAS						
Barton County	6	24	2	809	507	13,785
Ellis County	4	19	6	2,116	459	11,385
Rice County	6	29	3	358	1,404	25,205
Russell County	7	32	7	1,947	1,374	22,450
NEW MEXICO						
Lea County	8	58	1	400	2,313	100,210
Eddy County	12	61	5	1,916	473	11,770
LA-ARK-TEX						
Cotton Valley, La. (deep)	1	7	0	0	146	13,150
Magnolia, Ark.	1	7	1	840	80	19,410
MICHIGAN						
Freeman-Redding	1	13	1	120	129	15,234
Kent County	7	45	5	435	224	13,628
CALIFORNIA						
Montebello	4	34	7	4,028	321	27,250
ILLINOIS						
Salem	6	86	24	12,959	1,481	186,378
Louden	5	70	10	2,187	1,254	70,621
Other basin fields	30	270	32	10,993	1,930	72,017
Old fields	....	.....	...	.....	.....	8,010

Illinois, Indiana and Kentucky

By STAFF CORRESPONDENT

Large Wells in Salem Caused Increase in Illinois Production

CENTRALIA, Ill., Dec. 11.—A number of unusually large wells producing from the Aux Vases sand in the Salem field, completed in the past 2 weeks, increased the production of that pool to 186,378 bbl. per day last week or a gain of 4,138 bbl. per day over the previous week. Louden produced 70,621 bbl.; other basin fields 72,017 bbl. and the old fields 8,010 bbl., a total of 337,026 bbl. as against 332,245 bbl. a day in the previous week.

The Texas Co. in the Salem field completed a 3,248-bbl. well; one starting at 2,394 bbl. and a third starting at 1,456 bbl. In Richland County Pure Oil Co. completed a 2,174-bbl. initial producer. These were the largest new wells of the week.

The week's completion record included 66 oil wells producing 26,139 bbl. initially, and 15 dry holes. There were no gas completions. By county the record of wells completed and initial production was as follows: Fayette, 12 wells, 2,562 bbl.; Marion, 26 wells, 13,309 bbl.; Richland, 3 wells, 3,938 bbl.; Clinton, 2 wells, 337 bbl.; Clay, 6 wells, 2,849 bbl.; Edwards, 1 well, 175 bbl.; White, 5 wells, 2,028 bbl.; Wayne, 3 wells, 491 bbl.; Hamilton, 1 well, 72 bbl.; Washington, 3 wells, 121 bbl.; Wabash, 3 wells, 210 bbl.; Montgomery, 1 well, 2 bbl. The dry holes included one each in Richland, Edwards, Gallatin, Hancock, Edgar and Monroe; two each in Clinton and Washington and five in White.

Seven Devonian tests were started in the Salem field in Marion County in the past week. Alvin F. Fisher is drilling a Devonian wildcat, No. 1 Uchtman, SW cor. NE NW Section 7-6s-5w (corrected location), in Randolph County, and was down 1,670 ft. at last report. In the Patoka field in Marion County, where the big southern Illinois drilling campaign started, Jones & Deaton had a test in the Devonian lime at 2,908 ft., having topped the lime at 2,886 ft. No production had been reported, although saturation was said to have been had at 2,890-93 ft. and at 2,899-2,903 ft. The well is No. 2 P. J. Majonnier. Pure Oil Co. will drill to the St. Peter formation in its No. 3 Stella Billington in Section 27-1n-7e, in Clay County.

Twelve wildcats were started during the week in as many counties, and 114 new operations, including locations, rigs and wells drilling were reported in the state.

A Devonian-lime test in the Centralia townsite pool will be completed this week if plans are not interrupted. It is Louis Lilly and others' No. 1 Dave Gum, Lot 24, Block 1, Pullen subdivision No. 3, just outside the corporate limits. It found saturated lime at 2,903-33 ft.

Completed Wells

Following is the list of completed wells in the state reported during the past week, the initial production of the oil wells representing 24 hours unless otherwise stated:

In Fayette County

Carter Oil Co.'s No. 1 L. Weaber, SW NW NW Section 28-8n-3e, Louden pool, Fayette County, total depth 1,500 ft., 6-in. casing set at 1,462 ft., flowed 300 bbl., through tubing. Carter's No. 6 B. Kimbrell, C E½ SE NW Section 29-8n-3e, shot with 40 qt. at 1,413-29 ft., swabbed 152 bbl.; Cypress sand at 1,384-1,426 ft., total depth 1,432 ft. Carter's No. 4 Raymond, C W½ SE NE Section 29-8n-3e, Cypress sand 1,366-1,402 ft., shot with 40 qt., swabbed 180 bbl. Carter's No. 7 Dial, NE SE NE Section 33-8n-3e, shot with 7½, 40, and 30 qt., in stages from 1,503 to 1,588 ft., swabbed 640 bbl. Carter's No. 5 L. Mills, C N½ NW NE Section 7-7n-3e, shot with 35 qt. at 1,461-72 ft., swabbed 114 bbl. Carter's No. 3 Heckert, NW NW SE Section 8-7n-3e, shot with 30 and 10 qt. at 1,469-74 ft., swabbed 102 bbl. Carter's No. 8 McCormick, NW NW NE Section 18-7n-3e, 6-in. casing set at 1,561 ft., total depth 1,572 ft., shot with 30 and 10 qt., swabbed 168 bbl. Shell Oil Co., Inc.'s No. 3 Harper, NE SE NE Section 18-7n-3e, shot with 4 qt. at 1,581-87 ft. (Bethel sand); swabbed 46 bbl. of oil and 22 bbl. of water. Carter's No. 6 Hopper, C W½ SE SE Section 6-7n-3e, shot with 20 qt. at 1,521-38 ft. and ripped casing at 1,507-12 ft. opposite Paint Creek sand, swabbed 83 bbl. in 12 hours. Carter's No. 11 E. Hopper, NE SW SW Section 5-7n-3e, shot with 20 and 10 qt., swabbed 402 bbl.

In the St. James pool, Fayette County, Shulman's No. 10 Combs, W½ NW SW Section 6-6n-3e, shot with 40 qt. at 1,558-67 ft., pumped 135 bbl. Cypress sand was topped at 1,550 ft. Ohio Oil Co.'s No. 4 Swarm, SW SE SE Section 36-6n-2e, shot with 7 qt. in Cypress sand at 1,604-15 ft., pumped 240 bbl. per day.

Richland County

Pure Oil Co.'s No. 2 H. C. Coen, SW cor. NE SE Section 36-5n-9e, in the Dundas pool, Richland County, had Fredonia pay at 2,842-67 ft., flowed 947 bbl. naturally through 1-in. choke. Pure's No. 3 H. C. Coen, NE NE SE Section 36-5n-9e, Fredonia pay at 2,837-55 ft., flowed 2,174 bbl. through 1-in. choke. Pure's No. 1 Glossheimer, SW SW NW Section 31-5n-10e, Fredonia pay at 2,836-55 ft., flowed 862 bbl. naturally through 1-in. choke.

Clinton County

In Clinton County Paul Mosebach's No. 1 Robinson, SE SW SE Section 5-1n-3w, Devonian pay at 2,417-25 ft. and 2,426-31 ft., pumped 162 bbl. with no water. Norton & McWilliams' No. 1 Athoff, C S½ NE SW Section 9-1n-3w, Cypress sand at 1,044 ft., total depth 1,074 ft., dry and abandoned. O. W. Burroughs and others' No. 1 Adams, SE SW SE Section 12-3n-1w, Ste. Genevieve lime topped at 1,588 ft., total depth 1,707 ft., dry and abandoned. International Oil Co.'s No. 1 Adams, SE NE NE Section 13-3n-1w, Benoist sand at 1,426-35 ft., pumped 175 bbl. of oil and a small quantity of water, without a shot.

Marion County

In the Tonti field in Marion County Mrs. King's No. 5 Kagy, SE cor. SW NW SE Section 33-3n-2e, McClosky lime pay at 2,147-58 ft., total depth, pumped 200 bbl. of oil and 75 bbl. of water. Booth & Absher's No. 5 McMakin, SW SW SW Section 34-3n-2e, Benoist at 1,929-88 ft. and Aux Vases sand at 1,988-2,035 ft., pumped 150 bbl. from the lower sand.

In the Salem pool Texas Co.'s No. 4 Fisher, NE cor. Section 4-2n-2e, shot with 15 qt. in Aux Vases sand at 1,026-41 ft., and casing perforated with 120 shots opposite Benoist sand at 1,936-60 ft., pumped 259 bbl. Texas Co.'s No. 23 E. Jett, E½ NE SE SW Section 16-2n-2e, McClosky lime at 2,000 to 2,060 ft. at intervals, pumped 182 bbl. Kingwood Oil Co.'s No. 14 J. O. Shanafelt, NE NE NE Section 20-2n-2e, St. Louis lime topped at 2,026 ft., eight pay streaks from 2,036 to 2,358 ft., acidized with 2,000 gal., pumped 240 bbl. Ohio Oil Co.'s No. 32 M. Young heirs, NE SW SW Section 20-2n-2e, Benoist sand shot with 40 qt. at 1,847-68 ft., flowed 278 bbl. Shell Oil Co., Inc.'s No. 1-C Young heirs, NW cor. NE SE Section 20-2n-2e, shot with 25 qt. in Aux Vases sand at 1,840-58 ft., pumped 90 bbl. Texas Co.'s No. 4 Sweney, NE SW NW Section 20-2n-2e, Benoist sand at 1,857-74 ft., pumped 133 bbl. Lad Oil Co.'s No. 2 Young Church, SW cor. NW¼ Section 31-2n-2e, an old well deepened, found pay at 2,209-31 ft. and 2,235-47 ft., acidized with 4,000 gal., pumped and flowed 288 bbl. Ohio Oil Co.'s No. 28 Lloyd, NE NE SE Section 28-2n-2e, shot in Benoist sand at 1,827-30 ft., pumped 85 bbl. of oil and about 2½ bbl. of water. Rockhill Oil Co.'s No. 1 Hanley, NW SE NE Section 28-2n-2e, McClosky lime at 2,032-42 ft., acidized with 3,000 gal., pumped 28 bbl. Texas Co.'s No. 10 Kleinschmidt, C W½ NW NE Section 28-2n-2e, McClosky-lime pay at 2,046-57 ft. and 2,072-84 ft., flowed 175 bbl. naturally. Lain's No. 10 Dempsey, NE NE SW Section 31-2n-2e, McClosky pays 1,931-56 ft. and 1,965-68 ft., acidized with 5,000 gal., flowed 600 bbl. Texas Co.'s No. 15 Williamson, NW SE SE Section 31-2n-2e, Fredonia lime pay at 1,850-55 ft., 1,870-75 ft., and 1,875-96 ft., acidized with 2,000 gal., flowed 840 bbl. Texas Co.'s No. 6 N. Shanafelt, N½ SW SW NE Section 21-2n-2e, Fredonia pay at 2,033-74 ft., acidized with 1,000 gal., flowed 91 bbl. Shell Oil Co., Inc.'s No. 2-A Farthing, NE SW NE Section 32-2n-2e, Aux Vases sand topped at 1,782 ft., shot with 25 qt. at 1,832-50 ft., total depth 1,870 ft., flowed 300 bbl. Texas Co.'s No. 6 Hopkins, E½ NW NW SW Section 32-2n-2e, McClosky lime at 1,875-90 ft., flowed 240 bbl. naturally. Texas' No. 10 W. Richardson, C N½ SW NW Section 32-2n-2e, Fredonia lime pay at 1,875-87 ft. and 1,894-1,900 ft., flowed 112 bbl.

In the south end of the Salem field Texas Co.'s No. 39 City of Centralia, SW NE SW Section 4-1n-2e, Benoist sand top at 1,860 ft., total depth 1,903 ft., pumped 161 bbl. Texas' No. 9 E. Farthing, SW cor. NW NE Section 4-1n-2e, Benoist sand at 1,847-88 ft., pumped 245 bbl. Texas' No. 11 Heydrick, SW cor. NE NE Section 4-1n-2e, Benoist at 1,866-81 ft., shot with 5 qt., pumped 179 bbl. Texas' No. 6 Lankford, McClosky lime at 2,035-42 ft. and 2,047-61 ft., flowed 399 bbl. Hollingsworth's No. 7 Kalkbrenner, NW cor. SE SE SW Section 5-1n-2e, St. Louis lime top at 2,182 ft., pay at 2,182-2,210 ft. and 2,210-49 ft., acidized with 4,000 gal., flowed 980 bbl. Texas' No. 14 Tate, SE NW NW Section 5-1n-2e, shot in Benoist and Aux Vases sand at 1,710-1,800 ft., flowed 3,248 bbl. Texas' No. 25 Johnson, NE SE SE Section 6-1n-2e, shot with 55 qt. in Aux Vases sand at 1,766-1,821 ft., flowed 1,246 bbl. Texas' No. 8 Richardson, SE NE SE Section 6-1n-2e, Aux Vases sand at 1,751-1,815 ft., shot with 60 qt., flowed 1,456 bbl. Texas' No. 13 Friederich, McClosky lime at 2,028-57 ft., acidized with 2,000 gal., pumped 245 bbl. Texas Co.'s No. 12 R. Fyke, SW SE SW Section 8-1n-2e, McClosky at 2,052-57 ft. and 2,067-70 ft., flowed 132 bbl. naturally. Texas Co.'s No. 5 Hawkins Community, NW SE NW Section 8-1n-2e, Aux Vases sand at 1,817-82 ft., shot with 45 qt. at 1,837-82 ft., flowed 2,394 bbl.

Clay County

Pure Oil Co.'s No. 2 Chafin B, C W½ SW NE Section 19-2n-8e, Clay City pool, McClosky pay at 3,023-25 ft., 3,047-92 ft., and 3,111-15 ft., acidized with 5,000 gal., flowed 520 bbl. Pure Oil Co.'s No. 1 Schofield, C W½ SW NE Section 33-2n-8e, McClosky pay at 3,002-09 ft. and 3,045-49 ft., acidized with 5,000 gal., flowed 991 bbl. Pure's No. 1 Belle Broyles, SW SW SW Section 3-2n-8e, pays at intervals from 3,005-57 ft., treated with 5,000 gal., flowed 244 bbl. Pure's No. 2 V. Gill, NW NW SW Section 18-2n-8e, total depth 3,035 ft., 5½-in. casing at 3,000 ft., treated with 5,000 gal., flowed 609 bbl. Pure's No. 1 Kauble, SW SW NW Section 19-2n-8e, pays at intervals from 2,995 to 3,075 ft., acidized with 5,000 gal., pumped 295 bbl. Wiser Oil Co.'s No. 1 Shannon, C W½ NE SW Section 25-2n-8e, pays at 3,048 to 3,099 ft., at intervals, acidized with 1,000 and 5,000 gal., pumped 190 bbl. of oil and 10 bbl. of water.

White County

Schriver and others' No. 1 Woodward, SW NE SE Section 20-3s-10e, McClosky lime top at 3,263 ft., total depth 3,345 ft., dry and abandoned. Kenyon's No. 1 Vaughn, SW SE NW Section 1-3s-8e, abandoned at 1,750 ft. Mammoth Producing & Refining Co.'s No. 1 Fitzgerald, SE NW SW Section 30-4s-11e, Fredonia lime at 2,963 ft., total depth 3,025 ft., no McClosky lime reported, dry and abandoned. J. L. Taylor's No. 1 Botsch, NE NW NW Section 6-5s-10e, Fredonia lime at 3,238

ft., total depth 3,332 ft., dry and abandoned. No McClosky lime reported.

In the Storms pool Eason & Angle's No. 3 Storms, NE NW SE Section 14-6s-9e, Waltersburg sand at 2,254-71 ft., flowed 365 bbl. naturally. Eason, Leadbetter and others' No. 1 Rebstock, SW NE SE Section 14-6s-9e, Waltersburg sand at 2,247-72 ft., flowed 498 bbl. of oil in 24 hours and was then shut in for lack of storage. Exchange Oil Co.'s No. 2 Storms, NW SE NE Section 14-6s-9e, Wayne County, Waltersburg sand at 2,253-88 ft., flowed 368 bbl. per day through casing and tubing, together with 4,000,000 cu. ft. of gas. Exchange Oil Co.'s No. 2 Storms, SE NW NE Section 14-6s-9e, Waltersburg sand at 2,250-87½ ft., flowed 375 bbl. of oil and 12,000,000 cu. ft. of gas. Blackstock's No. 2 Storms, NE NE NE Section 23-6s-9e, Waltersburg sand top at 2,259 ft., total depth 2,279 ft., flowed 422 bbl. of oil. Wilson and others' No. 1 Dagley, SE SE SW Section 12-7s-9e, Ste. Genevieve lime at 3,057 ft., show of oil at 2,416-20 ft. and 2,758-63 ft., total depth 3,175 ft., dry and abandoned.

In Gallatin County Delta Drilling Co.'s No. 1 Wineberger, W½ NW SW Section 21-3s-9e, St. Louis lime at 2,670 ft., total depth 2,700 ft., dry and abandoned.

Wayne County

Dunlap's No. 3 M. Felix, NE SW NE Section 34-2s-8e, Barnhill pool, Fredonia pay at 3,380-87½ ft., acidized with 3,000 gal., pumped 75 bbl. Robinson and others' No. 1-A Caldwell, SE NE NW Section 34-2s-8e, McClosky lime at 3,360-64 ft. and 3,384-93 ft., flowed 386 bbl. Caynua Oil Co.'s No. 1 Borah, C E½ SW NE Section 23-1s-8e, McClosky pay at 3,129-33 ft. and 3,169-76 ft., acidized with 1,000 and 2,000 gal., pumped 30 bbl. of oil and 25 bbl. of water.

Texas Co.'s No. 1 Barker, NE cor. NW NE Section 20-3s-7e, Hamilton County, McClosky lime at 3,353-81 ft., pumped 72 bbl.

Washington County

In Washington County Chicago Syndicate's No. 1 Illinois Central, SE NW SE Section 23-1s-1w, was dry and abandoned at 1,592 ft., Benoist sand topped at 1,581 ft. In the Cordes pool Heenan & Coe's No. 2 Dennis, NW SW SE Section 14-3s-3w, Benoist sand at 1,275-81 ft., shot with 20 qt., pumped 5 bbl. of oil in 5 hours and pumped off. Shell Oil Co., Inc.'s No. 2 A. Fish, SE SE SW Section 14-3s-3w, shot with 10 qt. at 1,264-70 ft. and 10 qt. at 1,280-86 ft., pumped 67 bbl. Magnolia Petroleum Co.'s No. 1 Kozuszek, NW SE NW Section 26-3s-3w, Benoist pays at intervals from 1,252 to 1,282 ft., shot with 3 and 8 qt., pumped 49 bbl. of oil and 7 bbl. of water. Hardman's No. 7 Rozanski, SW cor. NW SW Section 19-3s-1w, was abandoned at 410 ft.

Wabash County

Landreth Production Co.'s No. 1 Elkins, NW SW SE Section 20-2s-13w, North Griffin pool, total depth 2,591 ft., plugged back and shot with 20 qt. in Biehl sand at 1,724-40 ft., pumped 110 bbl. Longhorn Oil & Gas Co.'s No. 1 Heil, NE cor. SW SW SW Section 7-3s-13w, Griffin pool, Cypress sand shot at 2,523-32 ft. with 40 qt., pumped 50 bbl. Longhorn's No. 2 Heil, SW cor. Section 7-3s-13w, McClosky lime at 2,876-99 ft., flowed 50 bbl. of oil and 20 bbl. of water.

In Montgomery County L. L. Robb's No. 1 David Davis, 450 ft. from south and 100 ft. from west lines of NE SW Section 3-8n-5w, in the old Litchfield pool, was completed in the Penn sand at 663-80 ft. for a 2-bbl. pumper, also producing water.

In Hancock County Minnie & Grady's No. 1 Roberts, C S½ NW SE Section 24-4n-5w of fourth principal meridian, was plugged and abandoned at 383 ft.

In Edgar County A. Meyers' No. 1 Schneider, SW cor. NW SW NE Section 29-13n-13w of second principal meridian, Devonian lime topped at 1,463 ft., total depth 1,620 ft., dry and abandoned.

In Monroe County Brooks Pennington's No. 2 Kolmer, SW cor. NW¼ Section 19-2s-9w, was abandoned at 275 ft.

In Richland County Pure Oil Co.'s No. 13 Wakefield A, NE SE NE Section 26-4n-9e, dry and abandoned at 2,607 ft., Cypress and stray sands were barren.

Edwards County

In Edwards County Anderson & Broadus' No. 1 Harms, SW NE SW Section 17-1s-14w of second principal meridian, St. Louis lime top at 3,148 ft., total depth 3,151 ft., dry and abandoned. J. B. Barnes' No. 1 Baker, SW NW NW Section 18-3s-14w, McClosky lime at 3,098-3,107 ft. and 3,139-50 ft., pumped 175 bbl. of oil and about 6 bbl. of water.

In White County Bishop & Harrington's No. 1 Griffin, SE SE SW Section 28-3s-9e, Ste. Genevieve lime at 3,505 ft. and 3,380 ft., total depth 3,505 ft. Preparing to run Schlumberger test. S. Jarvis' No. 1 Spencer, NW NW SW Section 31-4s-11e, Ste. Genevieve lime at 2,886 ft., St. Louis lime at 3,075 ft. Running 5½-in. casing to 2,037 ft. to test Palestine sand at 2,036-2,106 ft. Exchange Oil Co.'s No. 1 Bramlet, SE SE SW Section 25-4s-10e, drilling at 2,695 ft.; Cypress topped at 2,695 ft.

In Hamilton County Robinson's No. 1 R. and W. Porter, SW SE SW Section 17-7s-7e, St. Louis lime at 3,317 ft., drill-stem test at 3,237-3,420 ft. developed mud, but no oil; drilling ahead at 3,565 ft.

New Wildcat Operations

In Henry County R. Eke was drilling at 115 ft. in No. 1 Patten, SE cor. SW¼ Section 1-10n-3e of fourth principal meridian.

In Edgar County H. C. Hawthorne spudded to 40 ft. and then shut down No. 1 Hathomay, NW NW SW Section 17-14n-13w of second principal meridian.

In Clark County George F. Kinerim's No. 1 Phillips, 359 ft. from north and 1,014 ft. from east lines of Section 18-11n-14w of second principal meridian, was drilling at 100 ft. Midwest Oil Co. had derrick up for No. 1 Cole, SW NE SW Section 20-9n-14w.

In Madison County Jessie B. Wilson made a location for No. 1 Danderman, SW cor. Section 1-5n-6w.

In Jasper County Mammoth Producing & Refining Co. has derrick up for No. 2 Johnoff, SE SE SE Section 24-5n-9e.

In Lawrence County J. W. Conner and others were rigging up standard tools for No. 1 Zaner, 250 ft. from south and 840 ft. from west lines of SE SW Section 10-4n-11w of second principal meridian. Walter Payne was rigging up standard tools to start No. 1 Monfar, 259 ft. from south and 670 ft. from east lines of NE NW Section 28-4n-11w.

New Devonian tests included Harvey's No. 6 Kazy, 473 ft. from south and 173 ft. from east lines of SE¼ Section 33-3n-3e, drilling at 1,475 ft. Magnolia Petroleum Co.'s No. 30 S. Shanafelt, 396 ft. from south and 291 ft. from east lines of NW SE Section 29-2n-2e, derrick up. Texas Co.'s No. 20 McCollum, 382 ft. from north and 338 ft. from east lines of SE SE Section 29-2n-2e, location made. Magnolia Petroleum Co.'s No. 29 D. A. Shanafelt, 270 ft. from south and west lines of NW NW Section 21-2n-2e, derrick up. Shell Oil Co., Inc.'s No. 9-C Salem State Bank, 890 ft. from north and 1,000 ft. from west lines of SE¼ Section 20-2n-2e, set 12½-in. casing at 90 ft. Kingwood Oil Co. and Bell's No. 20 Shanafelt A, 270 ft. from south and east lines of NE NE Section 20-2n-2e, spudded. Frontier Oil Co.'s No. 3 Briar Patch, 170 ft. from north and 55 ft. from west lines of SW¼ Section 8-1n-23, rig up.

In Wayne County an unnamed operator is moving in rotary tools for No. 1 Accola, NE NE NE Section 31-2s-6e. Frost and others made a location for No. 1 McCracken, NE SW NW Section 21-2s-8e.

A St. Peter test is Pure Oil Co.'s No. 3 Stella Billington, C E½ SE NE Section 27-1n-7e, Clay County.

In Monroe County M. J. Morrow's No. 1 Krause, 100 ft. from south and west lines of Section 30-3s-7w, rigging up standard tools.

In Gallatin County Kingwood Oil Co.'s No. 1 Robinson, SE cor. NW NW Section 4-8s-8e, derrick up. J. C. Ingram's No. 1 Beverly-Turner, NE cor. Section 19-9s-8e, rigging up standard tools.

In Saline County Easley Drilling Co.'s No. 1 Oliver, C NE NE Section 16-10s-5e, rig up.

In Alexander County Arnold and Middleton's No. 1 Hodges, SE SE NW Section 35-15s-2w, location staked.

WESTERN KENTUCKY

OWENSBORO, Ky., Dec. 11.—Six oil wells, with a combined initial production of 325 bbl. and four dry holes was the completion record of western Kentucky in the past week. Fourteen new operations were started. Following is the week's review by counties:

Breckinridge County, Van Zant district, B. Calvert and others' No. 2 Mrs. Nora Burton and others, shut down at 160 ft. Glen Dean district, H. J. Cooper and others' No. 9 Earl Moorman, moving in.

Butler County, Silver City district, Cumberland Petroleum Co.'s No. 3 Lee Hawkins, 10-bbl. well in Jones sand, total depth 546 ft.

Daviess County, Utica district, J. C. Ellis and the Petroleum Co.'s No. 2 Louis N. Burns, location. Globe Oil Co.'s No. 11 J. M. Clark, rigging up. Baldwin Oil Co.'s No. 1 Roy Hansford, swabbed and flowed 160 bbl. naturally from Cunningham sand, total depth 1,525 ft. No. 2 moving in. C. E. Daugherty's No. 8 Rex O'Flynn, 40-bbl. well in Jones sand, total depth 1,315 ft. Oklahoma district, I. C. Huff and Hare's No. 2 Phillip Demmers, dry hole, total depth 525 ft. Handyville district, J. C. Miller, trustee, and Reily's No. 1 John Howard, dry hole through McClosky lime, total depth 1,825 ft. Sutherland district, A. D. Schaffer and others' No. 1 Dr. C. L. Medley, dry hole through sand, total depth 1,571 ft. Pellville district, Trennan Oil Co.'s No. 8 F. Miles, 5-bbl. well in Jett sand, total depth 480 ft. Trennan Oil Co.'s No. 1 Miles heirs, rigging up.

Henderson County, Corydon district, Sun Oil Co. and Kentucky Natural Gas Co.'s No. 2 R. H. Trigg estate, rigging up.

Logan County, Homer district, Jess Ashby's No. 1 M. S. Vanderaught, moving in.

McLean County, South Livermore district, J. C. Ellis' No. 1 Lula Edmonds, moving in to drill deeper from 1,446 ft. to McClosky lime. J. D. Reynolds and others' No. 2 Hollis Howell, estimated 100-bbl. well in Jett sand, total depth 1,453 ft.

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New Wildcats Started But Meager Results From Completions

EVANSVILLE, Ind., Dec. 11.—The Indiana fields had another week during which little was accomplished in the way of well completions, although a number of wells were reported in the sand or at the testing stage. The best completion of the week reported was a 150-bbl. well in Vigo County. The week's completions in the state included 2 oil wells, 1 gas well, and 6 dry holes. Among the new operations started was one in Porter County, most northwesterly county in the state, about 12 miles northeast of Valpariso and about the same distance west of Laporte.

Posey County

Superior Oil Co.'s No. 1 Mumford Realty Co., NE SW NW Section 31-3s-13w, Posey County, completed in sand at 2,570-85 ft., total depth 3,047 ft., pumped 41 bbl. per day. Sun Oil Co.'s No. 1 Gettman, NW SW SE Section 35-6s-12w, dry and abandoned at 2,168 ft.; Hardersburg sand was topped at 2,142 ft.

McKeethen and others' No. 2 Keck, C N½ NW NW Section 35-3s-14w, had Cypress sand at 2,494-2,512 ft., and set casing at 2,492 ft. Superior Oil Co.'s No. 16 New Harmony, SW SW SW Section 10-5s-14w, was in Menard sand at 2,172-82 ft., with casing set at 2,172 ft. Walter Martin and others had rig up for No. 1 Ford, SE SW NE Section 35-3s-14w. Continental Oil Co.'s No. 1 Kleiderer, NE NW NW Section 35-3e-14w, was in Cypress sand at 2,498-2,512 ft., with pipe set at 2,496 ft.; drilling plugs. George Harsh, Jr., was rigging up rotary for No. 1 Keck, NW cor. Section 35-3s-14w, J. E. Crosbie, Inc.'s No. 2 Keck, NW SE NE Section 34-3s-14w, show of oil in Bethel sand at 2,625-37 ft., drilling at 2,653 ft. Hollandsworth Brothers' No. 2 Keck, NE cor. SE NE NW Section 34-3s-14w, drilling below 2,520 ft. Hollingsworth and others were cleaning out at 2,153 ft. in No. 1 Keck, NE cor. SE NW Section 34-3s-14w. Seven-inch casing was set at 2,143 ft. They were drilling below 1,965 ft. in No. 2 Keck, SW cor. NE SE NW Section 34. Somers & Egan had rig up for No. 2 Keck, SE NE NE Section 34-3s-14w.

Gibson County

No wells were completed in Gibson County during the week. Ray Ryan and others were shut down at 2,576 ft. in No. 1 Skiles, SE cor. NW NE Section 18-3s-13w. Huddleston has rig for No. 2 Jolly, SW cor. SE SE NW tools in No. 2 Cooper B, SE SE SW Section 12-3s-14w,

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California Field Report

By L. P. STOCKMAN

Dominguez' West Extension Commanding Much Attention

LOS ANGELES, Calif., Dec. 11.—The Dominguez field of Los Angeles Basin, discovered August 31, 1923, when Union Oil Co.'s No. 1 Callender was brought in flowing 1,190 bbl. daily from 4,068 ft., has come into the spotlight again due to extension work by R. E. Havenstrite, the result of which is expected to be an aggressive exploitation on the west end of the structure. Acreage has been leased as far west as Main Street and a number of leases have been recorded farther west than that point as the extremity of the structure is undetermined. It is known that the Miocene is coming up in the west end of the original field and that No. 1 Larronde of R. E. Havenstrite, which adjoins Union's Callender lease on the west, has penetrated the seventh and eighth Callender zones, and should be completed within another week. Top of the seventh Callender zone was cored at 6,937 ft. and the eighth zone was found just where it should be below the relatively thin shale member that separates the two horizons. Most of the acreage west of Avalon, Broadway and Main streets consists of many small holdings that may be susceptible of overdevelopment.

As a result of the Havenstrite discovery the 148-acre Gardena Syndicate tract has become the most sought-after acreage in the state. Recent drilling by Union Oil Co. in the west end of the Callender lease, which adjoins the Gardena tract on the east, and the coring of good-looking oil sand in No. 1 Larronde, practically proves up the Gardena property for production. If development goes past Main Street on the west practically all of the Gardena tract will be found productive. Havenstrite will move west with his second location as soon as No. 1 Larronde has been completed and, with Main Street only 2,500 ft. beyond production, it is quite probable that one or more outposts will be started either east or west of Main Street in the near future.

The eighth Callender zone in Dominguez was discovered by Union Oil Co. June 9, 1936, when No. 44 Callender was completed, flowing 1,150 bbl. of 34.5-gravity oil daily from 7,596 ft. Heretofore deep zone drilling has been limited to the central part of the field and both Shell and Union finished a number of excellent flowing wells in this horizon. As Union moved west, it was found that each succeeding well was higher structurally, and this work eventually led to the drilling of No. 1 Larronde by R. E. Havenstrite. The first, second, third, fourth, and fifth Callender zones are in formations of Pliocene age while the sixth, seventh and eighth Callender zones are of Miocene age. The Pliocene failed to prove productive in the west end of the Dominguez field as also did the sixth Callender zone in the top of the Miocene. No. 1 Larronde failed to find the first six zones but has found the seventh and eighth, and latest reports from the well indicate that officials anticipate an excellent completion. If no edgewater conditions are found, this well should be good for at least 1,000 bbl. per day.

Montebello

Drilling operations in the Montebello field are centered more or less in the western end where the limits of production have not yet been established. Texas Co. recently completed an excellent flowing well in the west end of the Montebello structure and this has led to additional work. Aviation Oil Co. is the latest operator to start work in the west end and is drilling the farthest westerly outpost. Edgewater encroachment has not yet become a factor in the La Merced zone. The gas cap in the upper member of the zone is being utilized and the use of this gas will have the effect of keeping edgewater back.

New Wells

In the past week Montebello Oil Co. finished No. 1 Wallace-Nordon, flowing 1,300 bbl. of clean 36.6-gravity oil and 2,800,000 cu. ft. of gas per day from La Merced zone. The well was finished with a 7-in. water string cemented at 7,590 ft. Out in the far eastern end of the Montebello structure, Fullerton Oil Co. completed No. 2 Scott-Arnold, flowing 690 bbl. of 36.4-gravity oil and 1,100,000 cu. ft. of gas daily from La Merced zone, with bottom of the hole at 7,630 ft., but plugged back to 7,595 ft. Early in the week, Union Oil Co. finished No. 6 Wilcox, flowing 512 bbl. of clean 35.6-gravity oil and 2,000,000 cu. ft. of gas per day through a 32/64 and 64/64-in. bean from a depth of 7,618 ft. This new well was finished with a 7-in. water string cemented at 7,445 ft. and 192 ft. of 5½-in. liner which was perforated at 7,446-7,617 ft.

Traders Oil Co. completed No. 2 Montebello, flowing 610 bbl. of clean 37.6-gravity oil and 950,000 cu. ft. of gas daily from La Merced zone at 7,675 ft. This new well which logged top of the 6-4 oil sand at 6,680 ft., top of the 8-1 oil sand at 7,426 ft. and top of the 8-2 oil sand at 7,562 ft. was finished with a 7-in. water string cemented at 6,680 ft. and 1,025 ft. of 4¾-in. liner landed at 7,675 ft. and cemented through perforations at 7,565 ft. This liner was perforated at 7,565-7,675 ft. and was subsequently gun perforated at 7,442-88 ft. and at 7,504-52 ft. and the 7,660 ft. of 2½-in. tubing had a packer at 7,564 ft. and an Otis valve at 7,555 ft. No. 3-17 Montebello of the Caminol Co. was good for 488 bbl. of clean 32.5-gravity oil and 650,000 cu. ft. of gas initially from La Merced zone at 7,640 ft. It was finished with a 7-in. water string cemented at 7,479 ft. and 168 ft. of 5½-in. liner landed at 7,639 ft. and perforated at 7,479-7,639 ft. Production was through 7,610 ft. of 2½-in. tubing through open line, there being no flow bean during the production test.

Star Petroleum Co. completed No. 1 Caneer and while initial daily production was only 180 bbl. of 37.2-gravity oil and 500,000 cu. ft. of gas daily through a 32/64-in. bean, it is a satisfactory well. It was finished with a 7-in. water string cemented at 7,480 ft. and 177 ft. of 5-in. liner landed on bottom and carrying perforations at 7,482-7,635 ft. Top of the 8-1 oil sand was logged at 7,470 ft. and production was through 7,483 ft. of 2½-in. tubing. No. 1 Groen of Pacific American Oil Co. was good for 248 bbl. of 38.2-gravity oil cutting 2 per cent and 550,000 cu. ft. of gas per day from the La Merced zone through a 30/64-in. bean from 7,601 ft. It had been carried down to 7,649 ft. and then plugged back and was finished with a 7-in. water string cemented at 7,560 ft. and later gun perforated at 7,418-7,530 ft. and 104 ft. of 5½-in. liner landed at 7,601 ft. and perforated at 7,555-7,601 ft. The 7,590 ft. of 2½-in. tubing had a packer at 7,535 ft. and an Otis valve at 7,530 ft. Top of the 8-1 oil sand was logged at 7,419 ft. and top of the 8-2 oil sand was cored at 7,560 ft. Ten wells are scheduled for completion within the next week and a much larger group within a short time thereafter. There were no developments with respect to the virgin zone immediately beneath La Merced zone, but at least one well is expected to be drilled to that horizon in the near future. Larson Drilling Co. started down to this zone a week or so ago after finding water in the 8-2 sand, but now is considering making a production test of the 8-1 sand before going ahead.

Ventura Avenue

Tide Water Associated Oil Co.'s No. 121 Lloyd in the Ventura field has been completed, flowing 2,625 bbl. of 32.3-gravity oil and 3,000,000 cu. ft. of gas per day from the 57 zone with bottom of the hole at 9,860 ft. It was brought in flowing through open line and was finished with 9⅝-in. casing cemented at 6,076 ft. and 7-in. casing cemented at 9,158 ft. and 728 ft. of 5-in. liner including perforations at 9,168-9,853 ft. and landed at 9,853 ft. No. 108 Taylor of Shell Oil Co. in this field flowed 2,560 bbl. of clean 31.9-gravity oil and 1,890,000 cu. ft. of gas daily from 8,552 ft. This remarkable field still contains a lot of recoverable oil, and in some instances, the outer limits of production appear not to have been determined. A few months ago British American Oil Producing Co., Lloyd Corp. and California Alliance Petroleum Co. indicated that deep production could still be developed on the north flank, and as a result of this discovery, all three operators are engaged

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TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	December 3		November 26			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic—						
Crude oil	.....	.....	61,173	8,739	918,539	924,037
Fuel oil	.....	.....	75,040	10,720	2,031,881	129,261
Diesel and gas oil	.....	.....	.....	.....	163,501	.....
Gasoline	224,116	32,017	.....	.....	3,272,487	2,879,623
Kerosene	.....	.....	.....	.....	225,197	333,626
Foreign exports—						
Crude oil	840,892	120,127	263,882	37,697	14,247,506	20,076,511
Fuel oil	204,175	29,168	142,331	20,333	8,280,443	8,537,193
Diesel and gas oil	325,735	46,534	305,701	43,672	7,487,373	5,360,654
Gasoline	18,481	2,640	166,090	23,727	6,858,786	7,343,822
Kerosene	.....	.....	.....	.....	1,798,580	950,751
Asphalt	.....	.....	.....	.....	.....	7,563
Lubricants	.....	.....	.....	.....	165,166	175,560
Coastwise-domestic—						
Crude oil	246,701	35,243	393,382	56,197	11,712,241	10,663,583
Fuel oil	155,312	22,187	147,166	21,024	9,719,809	11,525,843
Diesel and gas oil	40,007	5,715	54,591	7,799	2,124,389	1,427,045
Gasoline	160,355	22,908	167,851	23,979	15,165,873	13,527,333
Kerosene	10,162	1,452	21,240	3,034	165,589	240,556

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Fuel oil	64,827	9,261	.....	.....	188,882	.....
Diesel and gas oil	.....	.....	.....	.....	314,092	251,560
Gasoline	.....	.....	.....	.....	43,235	25,409
Kerosene	.....	.....	.....	.....	100,507	16,124
Asphalt	.....	.....	.....	.....	501,323	490,039
Lubricants	.....	.....	.....	.....	24,870	19,945
Foreign exports—						
Crude oil	73,132	10,447	178,523	25,503	5,308,144	4,778,370
Fuel oil	71,971	10,282	84,063	12,009	2,857,876	2,323,258
Diesel and gas oil	66,709	9,530	135,702	19,386	2,600,555	3,052,566
Gasoline	.....	.....	32,501	4,643	2,943,177	5,167,496
Kerosene	.....	.....	.....	.....	554,589	696,099
Asphalt	.....	.....	.....	.....	22,323	56,258
Lubricants	.....	.....	.....	.....	625,294	534,142
Other finished oil	.....	.....	.....	.....	815	.....
Coastwise-domestic—						
Fuel oil	138,603	19,800	60,753	8,679	5,912,495	6,051,300
Diesel and gas oil	50,149	7,164	18,149	2,593	1,239,458	1,459,191
Gasoline	140,894	20,128	130,355	18,622	7,367,880	7,249,105
Kerosene	38,318	5,474	29,288	4,184	917,141	611,259

Texas and Louisiana Gulf

By
NEIL WILLIAMS

Venice in South Louisiana Gets Sixth and Deepest Pay

HOUSTON, Tex., Dec. 11.—Reports of oil and gas showings have attracted much attention to the Buna area, southern Newton County, where W-M Oil Co.'s No. 1 W. A. Smith, a projected Tertiary Wilcox test, is coring in the Yegua formation below 7,959 ft. Coring was started at 7,774 ft., and several cores recovered at intervals to 7,959 ft. consisted of sandy shale and sand carrying an oil and gas odor. The well topped the Hockleyensis at approximately 6,960 ft., Operculina at 7,693 ft., Cockfield at 7,715 ft., and the Yegua at 7,896 ft. Location is in the Texas Central R.R. Survey 2.

In the Garwood area, Colorado County, W. R. Davis & Co., Inc.'s No. 1-A J. R. McLane, is bottomed at 9,780 ft., and a protection string of 7-in. casing was cemented on bottom, preparatory to coring deeper. The progress of this well has been held up for several weeks due to a stuck drill stem. An electrical survey is reported to have shown gas and distillate sands at intervals from 9,400-9,500 ft., and 9,700-9,800 ft. The well is thought to be in the Wilcox formation, although the top of the section has not been announced.

Important Deal

One of the largest deals reported in the Gulf Coast sector in some time was consummated at the close of the week when Humble Oil & Refining Co. purchased the discovery well of the Rosenberg field, Fort Bend County, and approximately 5,300 acres from H. C. Cockburn, independent operator of Houston. This deal, which has been rumored for several weeks, involved a reported $500,000 cash payment and a $1,000,000 oil payment out of one-eighth of the oil, and a one-eighth overriding royalty. The trade also calls for an early drilling program, with the first well to be started within 30 days. The discovery well of the field was completed several weeks ago as a distillate producer in the Yegua formation.

Approximately 3½ miles northwest of the Rosenberg field, Magnolia Petroleum Co.'s No. 1 R. C. Huntington is bottomed at 8,552 ft., and a protection string of casing was cemented on bottom. The casing was cemented as protection against high-pressure gas sands logged at intervals from 8,259 to 8,274 ft. In the eastern part of the county, Gulf Oil Corp.'s No. 1 Russell Brown, is preparing to core ahead from 8,380 ft. at which depth the well attempted to blow out, causing the drill stem to stick.

Two outpost tests in the Anchor field, Brazoria County, had reached critical depths, and the outcome of both wells should be known by this week. Humble Oil & Refining Co.'s No. 1 Mettler, a mile northeast of the discovery well, is coring in hard shale below 10,498 ft. An electrical survey showed the following results on the third curve: Broken sand and shale at 9,484-9,503 ft.; 5 ohms resistivity and 50 mv. porosity, 1 ohm resistivity and 40 mv. porosity in sand at 9,879-90 ft.; 1 ohm and 50 mv. in sand at 9,934-46 ft.; 3 ohms and 30 mv. in sand at 10,012-23 ft., and sand and shale at 10,084-10,118 ft., with 30 ohms and 30 mv. Approximately ½ mile northwest of the discovery well, Glen McCarthy's No. 1 Salmon & Momma, is bottomed at 10,571 ft The third curve on an electrical survey showed 12 ohms resistivity and 55 mv. porosity in sand at 10,495-10,505 ft.; 10 ohms and 80 mv. in sand and shale at 10,515-43 ft.; and salt-water sand at 10,543-65 ft. In the same area, location was made by Humble Oil & Refining Co. for No. 1 Galznik and Taylor in the J. de Jesus Valderas Survey, about 4,600 ft. northeast of the discovery well and about 2,000 ft. southwest of the company's No. 1 Mettler.

On the Bryan Mound salt dome, Brazoria County, Texas Co.'s No. 8 Freeport Sulphur Co. was temporarily abandoned after the well swabbed and flowed by heads, an estimated 7 bbl. of oil and 11 bbl. of salt water. This well was plugged back from a total depth of 3,030 ft. to 2,486 ft., and was tested with 5½-in. casing cemented at 2,450 ft.

The third producing horizon for the West Ranch field, Jackson County, was apparently opened in the north extension area by Lonnie Glasscock's No. 10 Drummond. Seven-inch casing was cemented at 5,770 ft., following a 10-minute drill-stem test at 5,741-79 ft., which recovered 2,300 ft. of oil and 100 ft. of drilling mud. The test was made through a ⅜-in. choke and working pressure built up to 55 lb. Recent development has proven this field to be one of the most outstanding in the district. Production heretofore had been from two blanket sands in the Frio formation at 5,100 and 5,500 ft.

In the Hilje field, Wharton County, Texas Co. staked location for No. 2 G. Peters, 1,320 ft. northeast of the discovery well in the E.T.R.R. Survey, Section 101.

In the Lovells Lake field, Jefferson County, John Blaffer's No. 1 Horace Williams, ½ mile south of production, topped sand at 7,722 ft., and 5½-in. casing was cemented at 7,717 ft. The hole is bottomed at 7,724 ft.

Louisiana Coast

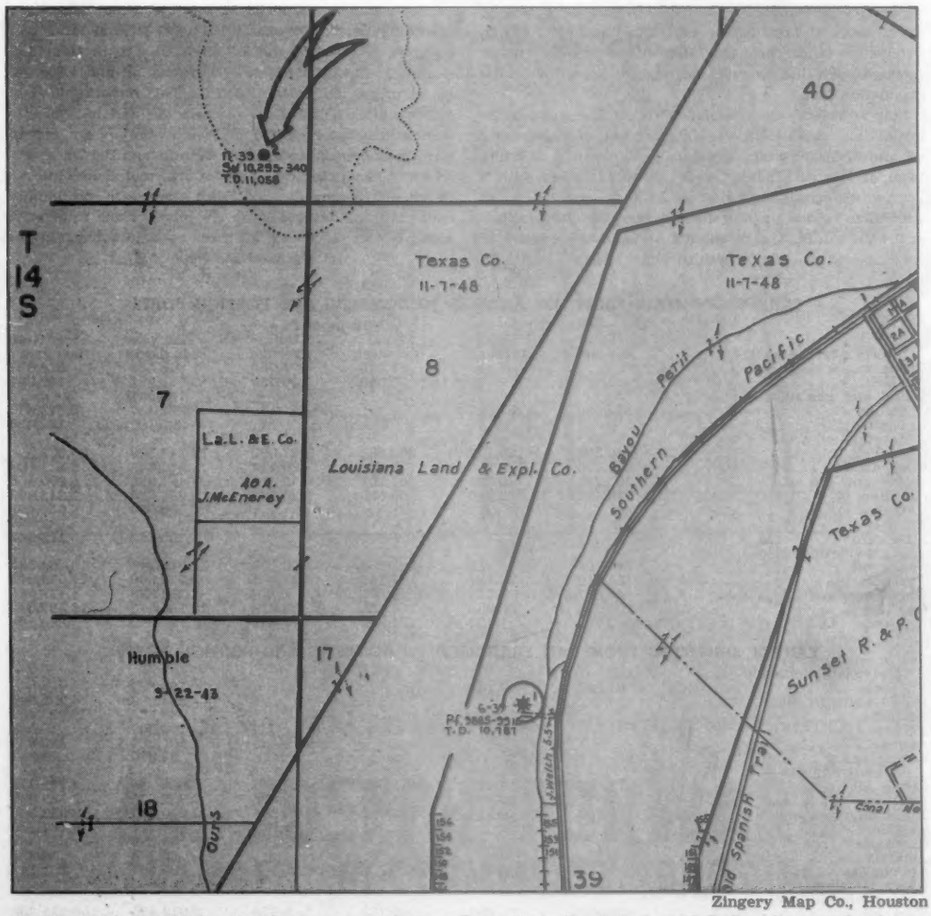
Along the Louisiana coast, Tide Water Associated Oil Co. opened production from a new horizon at the Venice field, Plaquemines Parish, with the completion of No. 6 Buras Levee Board. This well, located approximately 1 mile west of production, was drilled to a total depth of 10,745 ft., and was completed through perforated casing at 10,515-10,610 ft., for an initial production of 228 bbl. of 38.7-gravity oil per day, flowing through a ½-in. choke. Tubing pressure was 2,000 lb. This is the sixth and deepest producing horizon in the field. An electrical survey of the hole also showed another possible oil or gas sand at 10,160-10,230 ft.

In La Fourche Parish and located on the Bay Brussel prospect, Tide Water Associated Oil Co.'s No. 1 Louisiana Delta farms, Section 6-17s-23e, is drilling in shale below 11,080 ft. The well is looked upon as a probable pool opener in view of an electrical survey and sidewall cores which showed favorable indications in four sands at intervals from 8,748-9,935 ft.

In the South Jennings distillate field, Jefferson Davis Parish, Stanolind Oil & Gas Co. is preparing to test No. 1 Dan Doherty. Seven-inch casing was cemented at 9,573 ft., 127 ft. off bottom, and the casing will be perforated for the production test. This is the fourth well drilled on the structure, two of which are distillate producers and the others dry holes.

Production from a deep sand was indicated for the southeast flank of the Starks field, Calcasieu Parish, as Burton and McLean's No. 1 Industrial Lumber Co. attempted to blow out from a depth of 7,200 ft. The well

(Continued on Page 99)



Zingery Map Co., Houston

Paradis field, St. Charles Parish, Louisiana, showing Texas Co.'s No. 2 L. L. and E. Paradis, completed in a new sand as the first crude-oil producer in the field

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Rocky Mountain Area

By
T. R. INGRAM

Lance Creek Field May Have a Deeper Pay, the Bell Sand

DENVER, Colo., Dec. 11.—Indications that the Bell sand in Lance Creek, which underlies the Leo and Joss producing horizons, will be found productive over a large area when drilled were found in the completion of a 60-bbl. well in that formation in the West Mule Creek field, 25 miles to the northeast, in the Fall River & Royalty Co.'s No. 1 Government. The Joss sand was found productive on the east side of Lance Creek in the Continental Oil Co.'s No. 5 Apex OPC-3, which made 644 bbl. on official gage. The Dry Creek Oil Co.'s No. 1, in a fault block at the south end of the Oregon Basin field, was deepened 7 ft. and recompleted for 7,500,000 cu. ft. of gas in the second Wall Creek. Cut Bank had only one completion, M. R. Wagner's No. 2-X Allot.-173, which had 1,500 ft. of oil in the hole. Kevin-Sunburst had four completions, of which one was a dry hole. Nepstad-Montgomery-Fargher's No. 2 Haugen, which looked like a failure, was deepened 2 ft. and pumped 113 bbl. per day naturally.

New operations included three in Lance Creek, one of which is an outpost location on the northeast where an old Dakota well will be deepened, one in Lost Soldier, three in Cut Bank, and one in Kevin-Sunburst.

NEW MEXICO

Two extensions of about 3 miles southeast of the Loco Hills pool, Eddy ounty, featured the week's development in the Southeast New Mexico district.

McClay's No. 1 Leo Manning, NW NE Section 21-18-30, topped saturation at 3,009 ft. and oil rose 2,400 ft. in the hole in half an hour. The main pay of the Loco Hills pool was not expected in the wildcat for another 50 ft. About 1½ miles farther east than the prospective producer, Kersey & Co.'s No. 1 Creek, NE NW Section 23-18-30, came in to flow at the rate of 100 bbl. hourly from the Loco Hills pay, drilled from 3,263-80 ft. Operators were last reported reaming hole to cement casing for completion. Between these two new producers and slightly to the north, W. H. Martin has a lone wildcat producer on the S. D. Gates land and just north of the center of the south line of Section 15-18-30. The Martin well is producing approximately 50 bbl. daily from pay topped at 3,204 ft. Just northwest of the No. 1 Gates, S. D. Gates is moving in materials for his No. 1 Ployhar & Rook, 1,650 ft. from the south and 2,310 ft. from the west lines of the section.

Seven tests are active in the general area opened recently by Nolan's No. 1 Iles. Operators believe that this area, together with the southeast part of the Loco Hills pool, will see the greatest amount of activity throughout the coming months.

Eddy County

Addison's No. 1 Sullivan, 660 ft. from N and E lines, Sec. 29-18-31. Drlg. 3,106 ft.
Kersey & Co.'s No. 1 Creek, 330 ft. from N and 1,650 ft. from W lines, Sec. 23-18-30. Prep. cmt. cag. oil sand 3,263-80 ft.
Knox & Brewer's No. 1 Fred Hess, 330 ft. from N and W lines, Sec. 21-16-29. C.&P.
Powell & Mathew's No. 1 Levers, 1,980 ft. from S and W lines, Sec. 33-18-29. S.D.R. 2,170 ft.
Everts' No. 1 Greer, SE cor. Sec. 31-16-31. Drlg. 2,721 ft.
L. R. Manning's No. 1 Patton-McClay, 330 ft. from N and 1,650 ft. from E lines, Sec. 21-18-30. Topped oil sd. at 3,009 ft.; drlg. ahead toward regular pay zone.
G. A. Grober's No. 1 Wright, 1,980 ft. from N and W lines, Sec. 25-18-29. Tstg. S.O.&G. 1,382 ft.; est. 10 B.O.P.D.; S.I. 1,711 ft.
McClure & Swift's No. 1 State, 660 ft. from N and 1,980 ft. from E lines, Sec. 20-19-20. Drlg. 2,511 ft.
Mac T. Anderson's No. 1 L. J. Root, 660 ft. from S and 660 ft. from W lines, Sec. 27-9-30. Drlg. 2,137 ft.
G. R. Burke's No. 1 State, NE NE NW Sec. 36-16-24. S.D.O. 2,300 ft.
Artesia Drlg. Co.'s No. 1 Hoffman, SE SE SE Sec. 14-17-24. W.O.C. 475 ft.
J. R. Cones et al's No. 1 Saunders, SE SE NW Sec. 13-17-27. S.O. 505 ft.; S.D.O. 600 ft.
L. E. Elliott's No. 1 Elliott, SE SE SE Sec. 24-18-29. S.S.O. 3,255-75 ft.; S.D.O. 3,435 ft.
Franklin Pet. Corp.'s No. 1 Mastelier, NW NW NE Sec. 7-18-30. Drlg. 2,872 ft.
Franklin Pet. Corp.'s No. 1 Cappedge, NW SW NW Sec. 5-18-30. S.S.G. 3,118-23 ft. Drlg. 3,297 ft.
J. W. Elliott's No. 1 Cannon (O.W.D.D.), C SW SE Sec. 4-19-30. S.D.O. 3,209 ft.
Trojan Oil Co.'s No. 1 Grant, SW SW NE Sec. 33-20s-25e. S.O. 1,530 ft.; S.D.R. 1,580 ft.
Dodson Drlg. Co.'s No. 1 State, 2,310 ft. from N and 330 ft. from E lines, Sec. 17-16-29, ½ mile N of Nolen's No. 1 Iles discovery well. R.U.
Pittman's No. 1 State, 330 ft. from SW cor. Sec. 17-16-29, east offset to Nolen pool opener. Drlg. 1,540 ft.
Dodson Drlg. Co.'s No. 1 A. H. McElreath, 330 ft. from S and W lines, Sec. 3-16-29, 2½ miles NE of Nolen pool opener. Drlg. 1,762 ft.

Chaves County

H. E. Yates' No. 1 Johnson, 660 ft. from N and 1,980 ft. from W lines, Sec. 24-15-28. Drlg. 2,369 ft.
Meither's No. 1 J. W. Smith, 990 ft. from S and E lines, Sec. 30-11-25. W.O.C. 840 ft.
G. H. Cowden's No. 1 Brunson, 330 ft. N and W lines, Sec. 27-9s-30e. C.&P.
Caudill & French's No. 1-A Smith (O.W.D.D.), Sec. 1-4-29. S.D.R. 3,686 ft.
E. J. Fisher's No. 1 Hill, CSL S½ Sec. 8-15-25. S.D.O. 850 ft.
Tarkenton Bros.' No. 1 Peters, SE SE NW Sec. 33-11-25. S.S.O. 1,280-85 ft.; S.D.O. 1,324 ft.

Dona Ana County

Picacho O. & G. Co.'s No. 12 Armstrong, Sec. 15-23s-1w. W.O. csg. 2,620 ft.
Slack & Mahres' No. 1 Simmons, Sec. 35-22s-5e. S.D. 2,785 ft., T.D.; repairs.

Luna County

O. D. Berry's No. 1 Berry, SE SE SW Sec. 33-22s-10w. S.D.O. 1,000 ft.

Lea County

Barefield & Brooks' No. 1 Walker, 1,980 ft. from N and 660 ft. from E lines, Sec. 5-18-32. C.O. 3,660 ft.; flwd. by heads from sat. 3,685-3,700 ft.; S.I.; swbd. 80 B.O. P.D.; will not flow naturally; tstg.
Leonard Oil Co.'s No. 1 Ginsberg, 1,980 ft. from N and 660 ft. from W lines, Sec. 7-25-38. Drlg. 3,290 ft.
J. D. Barefield's No. 1 Stroup, 1,980 ft. from N and E lines, Sec. 12-18-32. W.O. mch.
Culbertson & Irwin's No. 1 Lea, 660 ft. from N and E lines, Sec. 8-19-32. Drlg. 1,027 ft.
Frank Farley's No. 1-A State, Sec. 18-21s-30e. Prep. drill plug; sat. 2,629-31 ft.; new pool opener; flwd. 1,000 B.O. in 18 hrs.; est. 1,500 B.O.P.D.; S.I. storage.
Argo Oil Corp.'s No. 1 Texas Co.-State, west offset to Westlea Oil Co. pool opener. S.I. storage; swbd. 100 B.O.P.D.; T.D. 2,657 ft.; putting on pump.
Westlea Oil Co.'s No. 1 Texas Co.-Cleveland, 2,310 ft. S of Westlea pool opener and 330 ft. from N and 1,980 ft. from W lines, Sec. 21-20s-32e. S.D.O. 2,672 ft., sul. wtr.

Otero County

Ernest's No. 1 Ernest, Sec. 20-25-7. S.D.O. 2,495 ft.
Otero Oil Co.'s No. 1 State, SE NW Sec. 5-22-10. S.D. 200 ft.

SOUTHEAST NEW MEXICO COMPLETIONS

Eddy County

In the Loco Hills pool Allen, Pope & Fair's No. 3-A State, SE cor. NW SE Section 36-17-29, flowed 80 bbl. per day through 2-in. tubing from pay drilled from 2,715-30 ft. and shot with 70 qt. Saunder's No. 2 Murdock, SW SW Section 4-18-29, flowed 18 bbl. hourly through tubing after shot in pay section from 2,639-90 ft. J. L. Langford's No. 1 G. Cone, NE SW Section 9-18-29, made 24 bbl. hourly from pay drilled from 2,476-98 ft. after shot in pay section. R. W. Fair's No. 1 Smith & Watson, SE SE Section 4-18-29, flowed 550 bbl. daily from pay drilled from 2,580-92 ft.

Lea County

Ohio Oil Co.'s No. 12 State-McDonald, in the Eunice pool, Section 13-22-36, gaged 50 bbl. hourly for 3 hours from pay drilled from 3,645 to 3,760 ft. and acidized with 3,000 gal. In the Halfway pool Continental Oil Co.'s No. 1-A-15 R. C. Langston, SW SW Section 15-20-32, ¾ mile southeast of the discovery well, dry and abandoned at total depth of 2,925 ft.

COLORADO

Adams County

Derby Dome O. & G. Co.'s No. 2 Baxter, C SE SW Sec. 2-3s-66w. T.D. 2,020 ft. in sd. and sh.; ckg. tities.

Custer County

Henry Donnelly's No. 1 Hodge, SE NE Sec. 26-21s-69w. Drlg. 1,450 ft. in conglomerate.

Larimer County

L. R. Steele et al's No. 1 Bund, NE SW Sec. 7-3n-69w. T.D. 1,420 ft.; T. basal Hygiene 1,383 ft.; ran 5½-in. to bttm. and S.D. until after holidays.
Continental Oil Co.'s No. 1 Meyers, SW SE SW Sec. 19-8n-68w. T.D. 5,206 ft.; P.B. to 4,686 ft.; shot with 20 qt. at 4,464-4,686 ft.; W.O. pmp. equip.

Park County

South Park Oil Co.'s No. 1 Lemar, NE NE SE Sec. 34-11s-75w. Drlg. 7,103 ft.

Rio Blanco County

Buford Oil Co.'s No. 1 Govt., C SW SW Sec. 16-1n-91w. T.D. 4,160 ft.; C.O.

Washington County

Thurman Oil Trust's No. 1 Ruby, NW NW SW Sec. 3-5s-52w. Drlg. 700 ft.

WYOMING

Big Horn

Yale Oil Corp.'s No. 2 Jones, Lot 59, approx. CEL NE SE Sec. 29-56n-97w. Drlg. 3,840 ft.
Frank S. Scott's No. 1 Robertson, SE SE SE Sec. 6-54n-93w. Drlg. below 645 ft.

Carbon County

Sinclair-Wyoming Oil Co.'s No. 4-E, C SE SW Sec. 29-26n-87w. M.I. rot.
Ohio Oil Co.'s No. 15 Harrison & Cooper, SE NE NW Sec. 2-19n-78w. Drlg. 1,875 ft.
Frank M. Johnson's No. 1 Govt., C SE SE Sec. 22-24n-88w. Drlg. 910 ft.
Ohio Oil Co.'s No. 1 University, SW SW SW Sec. 26-20n-78w. T.D. 3,579 ft.; redrld. to 3,476 ft.; installing pump.

Fremont County

Sinclair-Wyoming Oil Co.'s No. 11 Sand Draw unit, CSL NE NE Sec. 15-33n-95w. T.D. 4,403 ft.; P.B. to 4,300 ft.; ran 390 ft. of 4-in. liner to 4,280 ft.; prep. to test.

Hot Springs County

John W. Selby's No. 1 Kyne, SW NW Sec. 22-43n-92w. Drlg. 443 ft.; 8¼-in. at 405 ft.; W. at 295-305 ft.
J. W. Bales' No. 1 Govt., CWL NW SE Sec. 21-42n-90w. T.D. 805 ft.; M.I. 12½-in. cag.

Lincoln County

H C. Harris et al's No. 1 Govt., SE NW NW Sec. 23-21n-117w. Drlg. 2,410 ft.

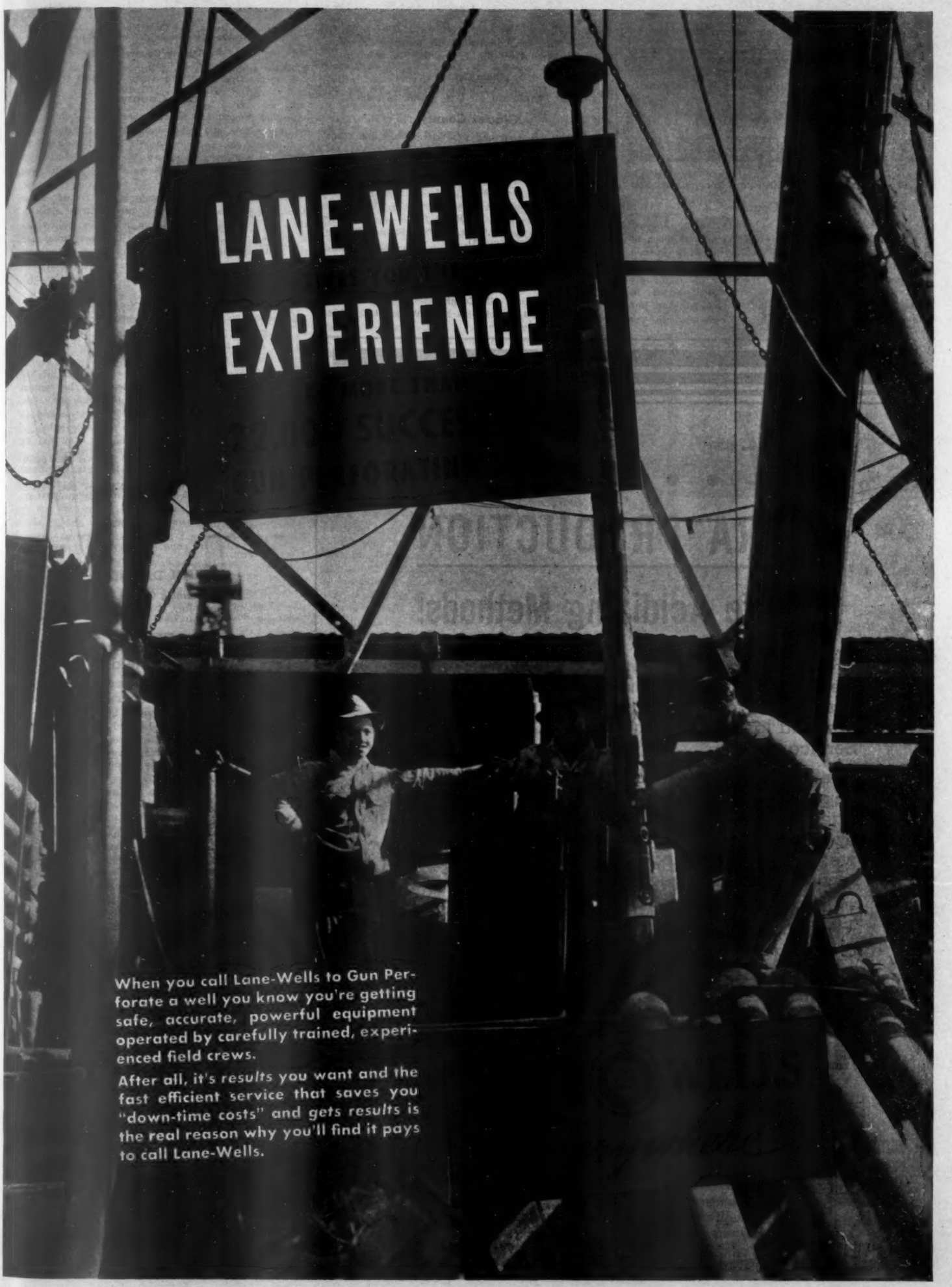
Natrona County

General Pet. Corp.'s No. 1-21-G, NW NW NW Sec. 21-35n-77w. Rig; W.O. equip.
Iron Creek Oil Co.'s No. 1, CWL SW NW Sec. 11-32n-82w. T.D. 721 ft.; trying to drill by lost blt; Iron Creek dist.
Continental Oil Co.'s No. 1 McGrath, C NW SW Sec. 15-34n-78w. T.D. 7,331 ft.; 7-in. cmtd. at 7,057 ft.; drlg. out cmt. to 6,500 ft.; perf. at 6,493-6,500 ft.; then recmtd. through perf. with 328 sacks; W.O.C.

Niobrara County

A completion of more than ordinary interest because of its bearing on the probability of finding a deeper pay in Lance Creek in the Bell sand at the base of the Minnelusa formation is that of the Fall River Royalty & Producers Co.'s No. 1 Government in West Mule Creek. This well, located in the CSL SE SE Section 35-40n-61w, is approximately 25 miles northeast of the Lance Creek field. It encountered a good show of oil at 2,662 ft. in the top of the Bell sand and was drilled to 2,675 ft. after setting the 8¼-in. casing on top of the pay. It was reported to have pumped 60 bbl. the first 24 hours and to be making at last reports around 50 bbl. per day. West Mule Creek has heretofore produced from the Dakota-Lakota sands at around 400 ft. One other deep test was drilled in the field in 1934 in the Interstate Oil & Refining Co.'s No. 1 Morrell, NW NE SE Section 2-59n-61w, which at 2,855 ft. pumped 12 bbl. per day through the 4½-in. casing.

Lance Creek had one completion in the Continental Oil Co.'s No. 5 Apex OPC-3, SE NE SW Section 34-36n-65w, which was rated at 644 bbl. per day on official gage through the tubing at 5,552 ft., total depth, from the Joss sand. It showed for a small well in the Leo sand. The well is on the east side of the field and approximately 2 miles from the nearest producer in the Joss sand, and its performance supports the belief that the new pay extends over the



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entire field, and possibly out beyond the limits of the Leo pool.

Two new operations were reported and a third well, the Continental's No. 3 Rodeo-4, an old well in the Dakota, is to be drilled deeper. It is an outpost well on the east.

Continental Oil Co.'s No. 3 Rodeo OPC-4, SE NE NE Sec. 35-36n-65w. T.D. 3,708 ft.; R.U.R. to D.D. from Dakota.
Continental Oil Co.'s No. 17 Tom Bell, SE SE NE Sec. 33-36n-65w. Dk.; W.O. equip. (first report).
Ohio Oil Co.'s No. 6 Agnes Rohiff, SE NW NE Sec. 32-36n-65w. Loc. (first report).
Continental Oil Co.'s No. 5 Apex OPC-2, NW NW SE Sec. 34-36n-65w. Dk.; W.O. equip. (cor. loc. and No.)

Park County

The Dry Creek Oil Co.'s No. 1, Lot 2, (approx. NW NE SW) Section 9-50n-100w, in a fault block at the south end of the Oregon Basin field, was deepened from 1,157 ft. to 1,164 ft. and recompleted in the second Wall Creek sand for 7,500,000 cu. ft. of gas per day. This well originally was drilled in 1934 to test the light-oil possibilities in the Frontier sand, but encountered heavy gas and was completed in the second Wall Creek at 1,151-57 ft. for 11,000,000 cu. ft. per day. Later on it probably will be deepened again.

Mule Creek Oil Co.'s No. 1, Lot 51, Sec. 9-46n-101w. Drlg. 1,900 ft.

Uinta County

Stove Creek Oil Co.'s No. 1 Govt., NE SW NE Sec. 26-14n-119w. T.D. 2,010 ft.; U.R. 8⅝-in. to bttm.

Glacier County

Cut Bank reported only one completion and three new operations. M. R. Wagner, Trustee's No. 2-X Tribal-173, NE SE SE Section 12-32n-6w, had 1,500 ft. of oil in the hole at 2,965 ft., total depth, and has not been given a swabbing test, but will make an average well. The Cut Bank sand was at 2,915-61 ft., and the main pay at 1,954-61 ft.

A. E. Crumley's No. 3 Jones, NE NW SE Sec. 31-34n-5w. R.O.G. (first report).
Wilkinson & Potter's No. 4 Allotted -127, 660 ft. from N. 300 ft. from W lines Lot 1, Sec. 1-32n-6w. R.U. (first report).
Glacier Prod. Co.'s No. 4 Miller, C NW NE Sec. 29-33n-5w. Spdg. 100 ft. (first report).

Hill County

J. Gudgel's No. 1 Mancin, SE NE NW Sec. 19-37n-15e. Drlg. below 1,200 ft.

Independent Natural Gas Co.'s No. 2 Stranahan, C SE SW Sec. 14-32n-17e. Loc.

Liberty County

Coolidge & Coolidge's No. 1 Forseth, CEL SE NE Sec. 8-35n-4e. Drlg. 1,702 ft.; 8¼-in. at 1,640 ft.

Toole County

Kevin-Sunburst had four completions, of which one was a dry hole, and one new operation. Charles Grant and others' No. 1 Anderson, SE NE NE Section 36-35n-4w, a wildcat on the west side of the field, which has been standing at 2,109 ft. for several months, was plugged and abandoned.

Nepstad-Montgomery-Fargher's No. 2 Haugen-Lease 2, SE SE SW Section 2-35n-3w, proved to be a better than the average well, although at first it looked like a failure. At 1,851 ft. it had drilled two breaks in the Madison with a show of oil, but failed to improve after acidizing with 500 gal. It was then drilled 2 ft. deeper, and pumped 113 bbl. per day naturally, with no water.

The Kippen Oil & Gas Co.'s No. 1 Solberg, SE SW NE Section 20-35n-3w, was plugged back from 1,904 ft. to 1,896 ft., and acidized wtih 500 gal., and pumped 45 bbl. of oil and 5 bbl. of water per day. The Sunburst was at 1,600-25 ft.

The Big West Oil Co.'s No. 14 Dahlquist, SE SW SW Section 21-35n-3w, was completed in the contact at 1,742-52 ft. and pumped 40 bbl. first day after acidizing and then dropped to 15 bbl. of oil and 15 bbl. of water next day. It will be acidized again.

Boris A. S. Aronow's No. 3 Ellingson, NW SE SE Sec. 15-35n-3w. Drlg. 315 ft. (first report).
A. Beardslee's No. 11 Swears, SW SE NE Sec. 9-35n-2w. T.D. 1,650 ft.; 8¼-in. at 1,150 ft.; Sunburst 1,445-56 ft.; 6⅝-in. at 1,650 ft.
Preval & Shay's No. 4 Govt., NW NW SW Sec. 11-35n-3w. T.D. 1,897 ft.; 10 B.O.P.D. naturally at 1,804 ft.; acd. and tstg.

Yellowstone County

Riverton Oil Co.'s No. 1 Fox, CEL NW NE Sec. 14-2n-23e. T.D. 2,150 ft.; cmtg. caves; will U.R. 6⅝-in. to set on bttm.

SOUTH DAKOTA

Harding County

South Dakota State Roy. Co.'s No. 1 State, SW NW Sec. 35-18n-1e. Drlg. 7,417 ft.

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RUSSELL, KANSAS
Tel. 493—C. R. Vincent
WICHITA, KANSAS
Tel. 3-2478—C. V. Burkett
SHREVEPORT, LA.
Tel. 2-3665—B. H. Reynolds
HOBBS, N. M.
Tel. 444—P. W. Morrison
SEMINOLE, OKLA.
Tel. 844—T. S. Lancaster
TULSA, OKLA.
Tel. 3-0807—M. E. Chapman
BRECKENRIDGE, TEXAS
Tel. 206 and 306—C. K. West; P. W. Pitser; G. R. Whitney; A. J. Buchanan
Tel. 643—A. C. Hanna
Tel. 745—S. M. Kingston
ANSON, TEXAS
Tel. 2411—J. T. Vernon
BORGER, TEXAS
Tel. 359—C. J. Thompson
LULING, TEXAS
Tel. 990—M. W. Fredenburg
ODESSA, TEXAS
Tel. 21—C. F. Hogan
WICHITA FALLS, TEXAS
Tel. 2-4307—
W. E. (Bill) Norton

Indiana Fields

(Continued from Page 75)

total depth 2,881 ft. Joe Bander and others set 5-in. casing at 2,504 ft. in No. 28 Cooper, SE cor. Section 12-3s-14w, total depth 2,524 ft. Lewis Production Co. was cleaning out at 2,140 ft. in No. 6 Cooper D, SE NE NW Section 13-3s-14w, after setting casing at 2,124 ft. Lewis Production Co.'s No. 7 Cooper D, NW SE NW Section 13-3s-14w, was drilling below 1,690 ft. Bander and others in No. 26 Cooper, SW cor. SE NE NE Section 24-3s-14w, shot sand at 2,524-32 ft, with 10 qt. and the hole filled 1,700 ft. with fluid. The crew was fishing. Continental Oil Co.'s No. 7 Bozeman, NE SW NW Section 24-3s-14w, was drilling plugs after setting casing at 2,512 ft., total depth 2,515 ft. Hollandsworth and others' No. 3 Cooper, NW cor. NE SE NE Section 24-3s-14w, shot sand at 2,062-2,100 ft. with 20 qt. and were cleaning out. Same operators' No. 4 Cooper, NE cor. SE NE Section 24, was shut down for orders at 2,110 ft. Continental Oil Co.'s No. 3 Keck, SW cor. Section 26-3s-14w, had sand at 2,495-2,517 ft., set 5-in. casing at 2,501 ft. and was drilling plugs. W. F. Lacey and others' No. 1 Julian, NE NW SE Section 26-3s-14w, deepened from 2,525 ft., was shut down for orders at 2,986 ft. Continental Oil Co.'s No. 2 Keck, SW SE SW Section 27-3s-14w, shot with 50 qt. at 2,787-2,807 ft. was cleaning out. Misenar & Baldwin and others' No. 1 New Harmony Bank, SW SE NW Section 27-3s-14w, cored saturated lime at 2,880-94 ft. and was running casing. Continental Oil Co.'s No. 1 Blood, NW NW SW Section 13-3s-13w, was drilling at 1,050 ft. A. L. Braden was spudding No. 1 Simpson, NW SE NE Section 19-3s-11w. Lane & Grey and others' No. 1 McCarthy, NW SE NW Section 13-2s-11w, plugged back from 2,700 ft., was shut down at 1,821 ft. Hullman and others No. 1 Hollis, SE SE NW Section 36-2s-11w, drilling at 1,590 ft., with no showings.

Lacey and others' No. 2 Heston, SE cor. SW NE Section 8-3s-13w, total depth 2,816 ft., plugged back to 2,775 ft. The hole was full of water and the crew was looking for a casing leak. Papoose Oil Co.'s No. 1 Cooper C., NE NE SW Section 18-3s-13w, total depth 2,497 ft., swabbed 80 bbl. of oil in 8 hours, rigging up to pump. Continental Oil Co.'s No. 1 Thrash, NW NE SW Section 18-3s-13w, sand at 2,467-2,527 gt., rigging up to pump.

Newton Pipe Line Co.'s No. 2 Carruthers, NE NE SE

Section 26-1s-10w, was fishing for tools, total depth 1,547 ft. Howard Johnson and others made a location for No. 1 Keifer, SW SE SE Section 26-1s-12w.

Vanderburg County

Volkman and others' No. 1 Heidt, C E½ NE SW Section 18-7s-11w, Vanderburg County, total depth 1,844 ft. and 5-in. casing set at 1,797 ft. Burr Lambert and others had rig up for No. 1 Foree, SW NW SW Section 7-7s-11w. Vanderburgh Oil Corp. spudded a 16-in. hole at No. 9 Hornby, SE NW SW Section 33-5s-10w.

Spencer County

Major Oil Co.'s No. 1 Haynes, SE SE NE Section 11-6s-7w, Spencer County, has Ste. Genevieve lime at 1,426 ft. and hole full of water at 1,580-83 ft., total depth. It was abandoned.

Illind Oil Co.'s No. 3 Streh, NE NE SE Section 1-7s-12w, is an 80-bbl. well on the pump, producing from sand at 1,729-48 ft. It had not been shot.

Charles E. Dice's No. 3 Gross, SE cor. SW NE NE Section 11-6s-4w, was drilling at 350 ft. Damron Brothers were drilling below 750 ft. in No. 1 Smith, NW cor. NE SW NE Section 19-7s-6w. Schnell and others were drilling at 570 ft. in No. 1 Biggerstaff, SW SW SE Section 6-7s-7w.

In Warrick County Fred McWilliams' No. 1 Edwards, NW SE SE Section 24-5s-9w, was shut down at 1,700 ft.

In Perry County H. J. Baker and others were drilling below 425 ft. in No. 1 Peters, SE cor. NW NW Section 11-5s-3w. Persise & Wyman's No. 1 Greiner, NW cor. SW SE SE Section 13-4s-2w, was shot with 80 qt. at 757-77 ft. and pumped 5 gal. of oil and 20 gal. of water in 24 hours.

In Dubois County Damron Brothers' No. 3 Humbert, SW NE SW SW Section 25-1s-4w, had sulfur water at 685-90 ft. and was abandoned. Damron Brothers made location for No. 4 Humbert, C N½ SW SW Section 25-1s-4w.

In Pike County A. J. Walker and others ran 6-in. casing to 600 ft. in No. 1 Johnson, NW SE SE Section 19-1n-6w. Walker and others' No. 1 Garrison, NW NE NE Section 30-1n-6w, had a showing of gas at 708 ft. and was drilling at 745 ft. Same operators' No. 1 Hancock, SE NE NW Section 30-1n-6w, had a show of gas at 748 ft. and was drilling at 945 ft. Same operators' No. 1 Colvin, SW NE SE NW Section 30-1n-6w, was running 6-in. casing to 728 ft. Same operators' No. 1 Denem, C S½ NW NE Section 30-1n-6w, drilling at 600 ft.

In Daviess County Ben D. Ruple's No. 1 Huff, NW SE NW Section 9-2n-5w, was dry and abandoned at 635 ft. Fred L. Hartman's No. 1 White, NW cor. SW¼ Section 22-2n-7w, was drilling at 1,426 ft. Same operator's No. 2 White, NW cor. SW NW SW Section 22-2n-7w, was being tested for gas at 300 ft.

In Knox County M. I. T. Syndicate's No. 1 Keith, SE SE SE Section 5-5n-9w, was dry and abandoned at 975 ft. Same operators' No. 1 McHenry, Donation 214, Township 5n-9w, was shut down at 2,800 ft. Hart & Williams' No. 1 Montgomery, C NE SW Section 28-5n-7w, was drilling at 650 ft.

In Martin County Harrison Development Co. was fishing at 110 ft. in No. 1 Lewis, NW NW SE Section 27-5n-3w.

In Sullivan County Niagaran Oil Co. was drilling at 1,922 ft. in No. 1 Knowles, SE cor. NW¼ Section 6-8n-9w. Salem Oil Co. was fishing at 1,700 ft. in No. 1 Woodward, NW NW NW Section 7-7n-8w. Siosi's No. 1 Cushman, NE NE SE Section 18-8n-10w, had Niagara lime at 2,716 ft. and was at a total depth of 2,743 ft. It had a showing of dead oil at 2,729-43 ft. and a half bailer of salt water. E. L. Shandy and others were drilling at 801 ft. in No. 2 Osburn heirs, NE cor. NW SW SE Section 12-8n-10w. Niagaran Oil Co. was cleaning out at 515 ft. in No. 6 Riley, NW NE NW Section 33-8n-10w.

In Clay County Dorsey Oil Co. was below 400 ft. in No. 1 Hickman, NW SE SE Section 15-9n-6w.

In Vigo County Siosi's No. 1 Stufflebean, C N½ NW SE Section 16-10n-10w, swabbed and flowed about 200 bbl. per day from pays at 2,127-32 ft. and 2,142-60 ft., and after a shot it swabbed and flowed 150 bbl. Ben H. Nation's No. 1 Boyce, SE cor. SW¼ Section 33-11n-9w, had Devonian lime at 1,990 ft., total depth 2,193 ft., and was dry and abandoned.

In Putnam County C. L. Williams made a location for No. 1 M. E. Cooper, 250 ft. from south and 750 ft. from east lines of SW NE Section 10-13n-4w.

In Marion County C. E. Jefferson was installing pumping equipment to test No. 1 Indianapolis Water Co. in NE cor. SW¼ Section 15-16n-3e. Same operator's No. 2 Indianapolis Water Co., C N½ S½ Section 15-16n-3e, an old dry hole deepened to Trenton lime at 875-900 ft., total depth, is a 100,000-cu. ft. gas well, completed.

In Jay County Ellen K. Burke's No. 1 Outcalt, C W½ SW Section 24-22n-14e, was drilling at 400 ft. J. S. Hickman's No. 1 fee, SW SE SE Section 22-24-12e, drilling below 800 ft. Petroleum Development Corp.'s No. 1 Binegar, NE cor. NW¼ Section 29-24-13e, a location for a 4,000-ft. test.

In Porter County Dall Goodson's No. 1 Pluta, NW NE NE Section 28-37n-5w, location.

OHIO FIELDS

NEWARK, Ohio, Dec. 11.—The deep test on the western flank of the Parkersburg syncline in Morgan County is dry at 5,097 ft. In Meigsville Township Clyde Foraker and others' No. 1 Charles Dearth, Section 13, was drilled through the Clinton and Medina sands without any showings; Clinton at 4,948-72 ft., Medina at 5,060-97 ft. The sub-Trenton test in Medina County, Spencer Township, by McCrea and others is drilling at 4,750 ft. which places them 660 ft. in the Trenton. Knox County in Central Ohio is to have a Trenton test, H. E. Perkins on fee property, in Howard Township, Lot 8, third quarter, previously reported as dry in the Clinton is being deepened. Completions are as follows:

Athens County, Carthage Township, C. W. Nuzum's No. 2 Lena Niggemeyer, Section 33, is a 2-bbl. pumper in the Berea at 1,706-15 ft. Lodi Township, C. A. Cody's No. 2 John Jeffers, Fraction 17, was deepened from the shale to the Macksburg 500-ft. sand for 400,000 cu. ft. of gas open flow at 539 ft.

Cuyahoga County, Mayfield village, Benedum & Trees' No. 2 on the Ford tract, gaged 850,000 cu. ft. of gas from the Newburg at 2,863-95 ft., after treating with acid.

Knox County, Morgan Township, C. A. Davis and others' No. 1 Carl Clutter, Lot 19, fourth quarter, makes an open flow of 80,000 cu. ft. of gas from the Clinton sand at 254 ft.

Medina County, Spencer Township, East Ohio Gas Co.'s No. 1 F. Coomes, Section 6, is a small gas well in the Clinton, good for 1,000,000 cu. ft. open flow, total depth 2,774 ft.

Perry County, Thorn Township, Wiser Oil Co.'s No. 1 Samuel King heirs, Section 26, found the Clinton dry, total depth 2,781 ft.

Washington County, Fairfield Township, H. W. Baker's No. 3 Jessie Dunean, Section 12, found the Berea dry, total depth 1,679 ft.

Lima Field

In Greene County, Ceasara Creek Township, Sun Oil Co.'s No. 1 E. M. Marshall had a gas showing in the Utica shales at 688 ft., drilling at 825 ft.

Hancock County, Orange Township, George Click and others' No. 1 C. M. Heidman, had top of Trenton at 1,333 ft., with small gas showing at 1,341 ft., shut down at 1,381 ft.; may drill through the Trenton.

EASTERN KENTUCKY

ASHLAND, Ky., Dec. 11.—The Virginia Coal & Land Co. is drilling a test on its land 6 miles south of Coeburn in Wise County, Virginia. This operation is especially interesting to Kentucky operators. The well will be a deep test, going to 5,000 ft. or more, and is already below 3,000 ft. in Big Injun sand.

It is located on the back side of overthrust with the front side of the fault, in Kentucky, following the state line. While the operation has only a light bearing on Kentucky it will be closely watched for possible commercial production and from a scientific standpoint. Drilling activities continued at a low level in eastern Kentucky with no indicated increase seen until after the first of the year. Reports from districts in Wolfe, Lee, Lawrence, Magoffin, and other counties say operations are at a standstill, while some other districts are unchanged from last week's report.

A report from Knox County says that the Schmidt operation, a deep test on the G. W. Hammond farm on Little Richmond Creek, is shut down. The same source says the well was acidized in Trenton lime and that while it was making possibly 8 bbl. of oil, it was producing more water than oil. The well had reached contract depth of 5,000 ft. when shut down.

Jim Hollon is down 3,320 ft. in lime in his deep test, No. 2 D. H. Rose, near Hazel Green.

Floyd Fitch plugged No. 1 on the Bear Tract Mineral Reserve, depth not given, and is starting another deep test on the same tract.

C. J. Sipple & Co. is down 125 ft. in No. 8 on the William Salyer land on Birch Branch in the Burning Fork district of Magoffin County, but due to trouble in obtaining water, is only able to drill part time.

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Eastern Field Report

By STAFF CORRESPONDENT

Shallow Berea Sand Flooded; Deep Test in Muskingum Dry

PITTSBURGH, Pa., Dec. 11.—During the past week in the lower eastern fields 37 operations were completed of which 13 were dry, 17 gas wells, and 3 oil wells with a daily initial of 92 bbl. In addition, four wells were drilled to be used in repressuring by water flooding in the shallow Berea sand in Medina County, Ohio, where extensive water flooding is in progress.

SOUTHEAST OHIO

The best producer for the week was Pure Oil Co.'s No. 3 on the Newton Ascraft farm in Section 14, Pike Township, Coshocton County, bottomed in Clinton sand at 3,171 ft. It produced 90 bbl. the first day after a shot. The well flows after being swabbed.

In Athens County Ohio Fuel Gas Co. completed No. 2 J. Mansfield in Section 6, Lodi Township, in second Berea sand at 1,621 ft. It is a gas well gaging 112,000 cu. ft. a day. In Section 17, near Judson, A. D. Townsend completed No. 3 M. Weatherby in the same formation at 1,707 ft., good for 100,000 cu. ft. a day.

In Knox County C. A. Davis and others completed a gas well on the Carl Clutter farm in Section 19, Morgan Township, in Clinton sand at 2,506-38 ft. It gages 83,000 cu. ft. a day.

In Madison Township, Licking County, Ohio Fuel Gas Co. completed a second test on the T. W. Jones farm in Section 5, in the Niagara lime at 2,330 ft. It is a gas well having a volume of 520,000 cu. ft. a day. In the same section J. T. Bebout completed a second test on the George Wahl farm in the Clinton sand at 2,605 ft. It gages 338,000 cu. ft. a day.

In Mary Ann Township, Licking County, Shrider & Davidson completed a second test on the Minnie Rice farm in Section 24, in Clinton sand at 2,625 ft. It has a volume of 800,000 cu. ft. a day. In Section 17, same township, Shrider & Kinsey, on the William Stricker farm, drilled through Clinton sand to 2,593 ft. and it was dry. In Section 24, Mary Ann Township, Ohio Fuel Gas Co. drilled a dry hole on the Russell Hollar farm through the Clinton sand to 2,680 ft. In Newark Township Ira Hazlett drilled a second test on the J. A. Deering farm through the same formation to 2,608 ft. and it was dry.

In Medina County Preston Oil Co. drilled No. 8 Roy E. Dague, Lot 5, Tract 16, Chatham Township, through Berea grit to 387 ft. and it was dry. In Tract 13, Chatham Township, Marine Trust Co. drilled No. 03 George F. Packard, Lot 4, to 387 ft. and it will be used for an input water well. These operators also drilled Nos. 038, 034, and 040 on the Daniel Ross farm, Lot 7, to 358, 359, and 329 ft., respectively, to also be used for water flooding.

In Monroe County H. B. Walker & Co. drilled a test on the John W. Pittman farm, Section 27, Sunsbury Township, through Keener sand to 1,681 ft. and it was dry.

In Morgan County Clyde Foraker and others drilled a dry hole on the F. C. W. Dearth farm near Neelyville in Section 22, Meigsville Township, through Medina sand to 5,193 ft.

In Muskingum County Gas Producing Co. of Ohio drilled a failure on the E. C. Beetcher farm in Section 18, Harrison Township, through Medina sand to 4,245 ft.

In Washington County J. C. Herlan and others drilled a dry hole on the Sarah V. Kuddington farm at Archers Fork in Section 27, Independence Township, through Squaw sand to 1,811 ft.

SOUTHWEST PENNSYLVANIA

In Allegheny County, Pennsylvania, O. Miller is drilling in the Hundred-foot sand on his fee in McCandless Township. In Franklin Township Harbison and others are down 200 ft. on the T. Brown farm.

In South Fayette Township, Allegheny County, Homer Nixon is drilling at 2,230 ft. in the James Hickman test and Dunn Brothers have reached 650 ft. in No. 2 J. J. Bowman. In Beaver County Stanley Steeb is drilling at 1,200 ft. in No. 3 Jacon Yeck, in Economy Township.

Armstrong County

In Cowanshannock Township Peoples Natural Gas Co. is casing the test on the William Small farm at 3,105 ft., and drilling the France Harkleroad test at 3,250 ft. Equitable Gas Co. has rig up for No. 2 D. W. Raraigh. J. C. Sefton and others are down 680 ft. in No. 3 Stanley Sowers. Apollo Gas Co. is drilling at 470 ft. on the Hulda Bleakney farm. T. W. Phillips Gas & Oil Co. was drilling at 2,564 ft. in the H. H. Harkleroad test and at 1,526 ft. on the Jacob Boyer heirs test.

In Boggs Township John Wray and others completed No. 2 Walter Upperman at 1,425 ft. with a final gage of 106,000 cu. ft. of gas a day from Murraysville sand. These operators are drilling at 2,257 ft. in No. 3 William Mateer and at 810 ft. in the Warren Mateer test. Peoples Natural Gas Co. is down 635 ft. in the McCullough heirs test.

In Kiskiminitas Township Apollo Gas Co. is drilling at 1,365 ft. in No. 2 A. D. Tressler and Morman & Dorcey at 275 ft. in No. 5 M. M. Martin. In Kittanning Township Edward Young and others are drilling at 1,175 ft. on the Hugh Blair farm; in Manor Township John Wray and others at 1,585 ft. on the David Campbell farm; in Plumcreek Township William McCollins at 970 ft. on the Add Reefer farm; in South Bend Township Sheiocta Gas Co. at 2,520 ft. in the Harve Reefer test.

Indiana-Clarion-Westmoreland

In Indiana County T. W. Phillips Gas & Oil Co. drilled the test on the Federal Land Bank lease in Cherryville Township to 3,575 ft. and it was dry. In Brush Valley Township these operators are drilling at 3,041 ft. in the Samuel Pool test; in Washington Township at 2,605 ft. in the B. S. Connor test, and 2,015 ft. in the Anna B. Spence test; in White Township at 2,910 ft. on the Blanche Deyarmire farm, and at 2,625 ft. in the F. B. Loman test.

In Clarion County T. Swartzfager and others are shut down at 1,000 ft. drilling a water well on the William George farm in Limestone Township. In Toby Township David Judson and others have reached 125 ft. starting the Samuel Summerville test.

In Red Bank Township, Clarion County, O. H. Culbertson is building a rig on the Edward Bowersox farm. The Owens Illinois Glass Co. is drilling at 600 ft. in the No. 2 Lewis Keck. In Porter Township T. W. Phillips Gas & Oil Co. is pulling casing at 1,750 ft. in No. 2 T. C. Blair and will rerun the pipe.

In Westmoreland County Kiski Valley Gas Co. is drilling at 1,110 ft. in No. 1 John Beighley, in Bell Township, and fishing for tools at 2,240 ft. in No. 1 James McBriar.

Fayette-Greene

In Fayette County Nollem Oil & Gas Co. drilled 134 ft. into the Injun sand in No. 3 Combs, in Menallen Township, and it was dry. In Nicholson Township Greensboro Gas Co. is down 2,513 ft. on the Mary Oravis farm and it gages 380,000 cu. ft. of gas a day.

In Greene County Herrod Run Oil & Gas Co. completed No. 3 A. J. Dye in Springhill Township in Injun sand at 2,256 ft. It gauged 240,000 cu. ft. of gas a day.

In Richhill Township, Greene County, Natural Gas Co. of West Virginia is drilling at 2,151 ft. on the Robert Burns farm with Big Injun sand topped at 2,019 ft. and 117,000 cu. ft. of gas at 2,021 ft. In Wayne Township Manufacturers Light & Heat Co. is drilling at 230 ft. in No. 2 Halsie Tustin. In Washington Township Equitable Gas Co. is down 1,115 ft. in the W. L. Bebout test. In Greene Township Union and Monongahela Oil & Gas Co. has started drilling the Hartley and Ross test. Fred Garrison is shut down at 1,170 ft. in the Henderson Coal Co. test.

Washington County

In South Franklin Township, Washington County, Union Gasoline & Oil Corp. is setting machine for No. 827 C. T. Conn. Harry Williams and others are rigging up No. 6 Jason Buchanan. E. H. and J. B. Tague are deepening No. 1 J. O. Peticord and A. V. Lewis and others have reached 1,530 ft. in No. 2 Sarah W. Phelan.

In South Strabane Township W. H. Davis is drilling at 1,800 ft. in No. 11 B. Davis. In North Strabane Township Keystone Drilling Co. is down 1,355 ft. in the Mary Means (Joseph Gregor) test. In Morris Township, Union Gasoline & Oil Corp. is running casing to 2,927 ft. in No. 824 Hugh A. Day. In Carroll Township Eastern Gas Co. is down 888 ft. in the Haywood test. In Somerset Township Equitable Gas Co. is drilling on the James Weir farm. In Hanover Township H. K. Aten is down 125 ft. in No. 2 Lee Devitt. In East Finley Township Manufacturers Light & Heat Co. is deepening No. 2294 Esther Kerr from 2,724 ft. In Mount Pleasant Township F. W. Findley is drilling on the William Loffert farm below 200 ft.

Deep Tests

On Chestnut Ridge in Fayette County New Penn Development Co., William E. Snee, and others are running casing to 6,682 ft., or the cherty zone of the Onondaga, on the Piedmont Coal Co. lease in North Union Township. This test is being viewed with interest as the Onondaga chert was topped slightly over 200 ft. lower subsea than the discovery well, No. 1 Summit Hotel. In Maryland these operators are drilling at 4,607 ft. on the Humberson farm on Accident dome in Garrett County.

In North Union Township on Chestnut Ridge, the new gas line from Point Marion, Pa., has been completed and the gas from No. 1 J. H. Sorg has been turned into the lines at the rate of about 1,500,000 cu. ft. a day. Wasson & Co. are drilling at 1,350 ft. in No. 2 Sorg, and are carrying some water in the hole. It is expected that water will be carried below 3,000 ft.

In Stewart Township, Fayette County, and on Laurel Ridge New Penn Development Co., William E. Snee and E. G. Mueller are drilling at 1,300 ft. on the Gregg L. Neel farm.

WEST VIRGINIA

In Ritchie County, West Virginia, R. C. Jackson completed No. 9 United States Oil Co. in Grant district in the salt sand at 1,650 ft. and it is making a little over 1 bbl. a day.

In Wood County N. B. Biddle and others completed the C. H. McKenna test in Williams district in the Injun sand at 1,449 ft. and it is a 1-bbl. pumper.

Gas Wells

In Clay County Pittsburgh & West Virginia Gas Co. completed a good gas well on the J. L. Dickinson farm. It was bottomed at 1,457 ft., Maxton sand, and is good for 5,000,000 cu. ft. a day. In Pleasant district Thompson Gas Co. completed No. 39 at 2,271 ft., good for 89,000 cu. ft. a day.

In Gilmer County Pittsburgh & West Virginia Gas Co. completed No. 7711 W. H. Simmons in Troy district at 2,022 ft., with Maxton sand at 1,661-92 ft. and

(Continued on Page 100)

North Louisiana, Arkansas

By
GEORGE WEBER

Smackover-Lime Pool Looms in Central Columbia County

SHREVEPORT, La., Dec. 11.—Completion of Standard Oil Co. of Louisiana's No. 1 Petty Stave Lumber Co. in the past week is expected to mark the discovery of another Smackover-lime field in Columbia County, Arkansas. Secondary in interest is the deep Lisbon test in Clairborne Parish, Louisiana, which last week swabbed some gas and a showing of oil, and is reperforating in the lower Marine formation which shows production possibilities.

A La Salle Parish wildcat and a slight extension of the Temple Oil Co.'s Vivian extension area in Caddo Parish, were the only other activities of interest in North Louisaina. South Arkansas, with active wildcats and field-extension tests, holds the major interest.

Wildcat Discovery

Columbia County's latest Smackover-lime discovery, Standard's No. 1 Petty Stave Lumber Co., SE cor. Section 4-17s-21w, was waiting for cement to set, with 6-in. casing landed at the total depth of 7,999 ft. The porous lime of the Smackover formation was topped at 7,956 ft., and a drill-stem test made at 7,935-40 ft. using ¼-in. chokes, top and bottom, recovered 390 ft. of gas-cut mud, with a good showing of distillate. The testing tools was open 10½ minutes, and working pressure went to 420 lb. Bottom-hole pressure was recorded at 2,600 lb.

The wildcat is approximately 1 mile southeast of Phillips Petroleum Co.'s No. 1 Askew unit, drilled to the Smackover lime in May, and abandoned as dry at 8,510 ft. The new well is located 1½ miles northwest of the city of Magnolia.

Standard's other current wildcat, No. 1 Warnock, was abandoned last week after encountering salt water in the top of the Smackover porous oolitic lime member at 7,692 ft. Total depth was 7,747 ft.

The Dorcheat field of Columbia County comes to the front in field activity as four tests drill and core in the immediate vicinity of the discovery well, and a fifth is drilling in a wildcat location to the west. An east offset to the discovery, Lion Oil Refining Co.'s No. 1 Warnock, at the week end cored the top of the porous oolitic member of the Smackover lime at 8,800 ft. and found gas and distillate saturation. It was coring below 8,830 ft. at latest reports. The other field tests are shown in the accompanying map.

Elsewhere in Columbia County the Buckner eastern extension area is again in the spotlight as Standard Oil Co. of Louisiana topped the Buckner formation at 7,021 ft., Smackover lime at 7,266 ft. and the porous lime member at 7,269 ft. The hole is being cored ahead at 7,310 ft. It is an east-edge test in the extended field sector.

The Magnolia field was further defined by G. H. Vaughan's No. 1 Jameson, a north-edge test, drilled on a specially granted 20-acre unit, in Section 15-17-20. It topped the porous lime at 7,690 ft., below the water level.

In Union County, Barnsdall Oil Co.'s No. 1 Cameron, a wildcat, 5 miles west of Junction City, in Section 36-19-17, is drilling below 5,630 ft., and will be closely watched during the next few days as it approaches critical markers.

Louisiana Activity

The deep Lisbon field test, still attempting to bring in commercial production from horizons cored in the lower Marine formation, was reperforating in the section from 8,811-61 ft. During the week, the casing was perforated at the following points: 8,809½-22½ ft., 8,825½-33½ ft., 8,845½-58½ ft., and after failure of a drill-stem test at 8.339-60 ft., operators swabbed down to 5,100 ft. Although a showing of gas and a stain of oil was reported from this swabbing, it was decided to reperforate through the section, and further swabbing and testing in the next few days are hoped to bring better indications of production. An upper section, which showed good indications of production, was a disappointment when it tested salt water at 8,354-83 ft. This deeper prospect consists of a hard, tight gas and distillate sand at 8,817-48 ft.

In La Salle Parish, H. L. Hunt and Arkansas Fuel Oil Co. are beginning No. 1 Goodpine, a wildcat, in Section 18-10n-3e, about 6 miles due east of the Urania field.

NORTH LOUISIANA COMPLETIONS

(24-hour production)

Sligo—Bossier Parish

Triangle Drilling Co.'s No. 6-A Herold, 332 ft. S and 2,335 ft. E of NW cor., Section 13-17-12, 210 bbl., heading through 2-in. tubing. Perforated at 2,988-98 ft. 5½-in. casing set at 2,998 ft. Total depth 3,020 ft.

Caddo—Caddo Parish

Burnham Drilling Co.'s No. 2 Wilkinson, Section 33-22-16, 75 bbl., total depth 2,495 ft. Graham & Lawton's No. 1 Lawton estate, Section 24-22-16, dry and abandoned, total depth 2,850 ft. P. N. McCullough's No. 4 Hart, Section 21-21-16, salt water and abandoned, total depth 1,038 ft. Texas Co.'s No. 1 Atkins fee, Section 7 20-15, 15 bbl., pumping, total depth 1,471 ft. Texas Co.'s No. 1 Guy & Richardson, Section 1-20-16, pumping, used 4,000 gal. acid, total depth 1,456 ft. Weaver Oil Corp.'s No. 1 Thornton, Section 24-22-16, dry and abandoned, total depth 2,810 ft.

Wildcat—Catahoula Parish

Bell Drilling Co.'s No. 1 Peck, 698 ft. S, 169 ft W of NE cor., SW NE Section 33-11n-8e, dry and abandoned at 5,023 ft.

Zwolle—Sabine Parish

A. R. Chestnut's No. 1 Sepulvedo, 990 ft. N, 330 ft. E of SW cor., SE SE Section 4-7-13, salt water and abandoned, total depth 2,458 ft. Hunter Co.'s No. 2-B Sabine Lumber Co., C SE SE Section 7-7-13, salt water and abandoned at 2,611 ft. Major Oil Co.'s No. 8 Bowman Hicks, 25 ft N, 400 ft. E of SW cor., Section 7-7-12, pumping 12 bbl., total depth 2,525 ft. S. E. Stack's No. 1 Gray, C SW SW SW Section 4-7-13, salt water and abandoned, total depth 2,472 ft.

Monroe—Union Parish

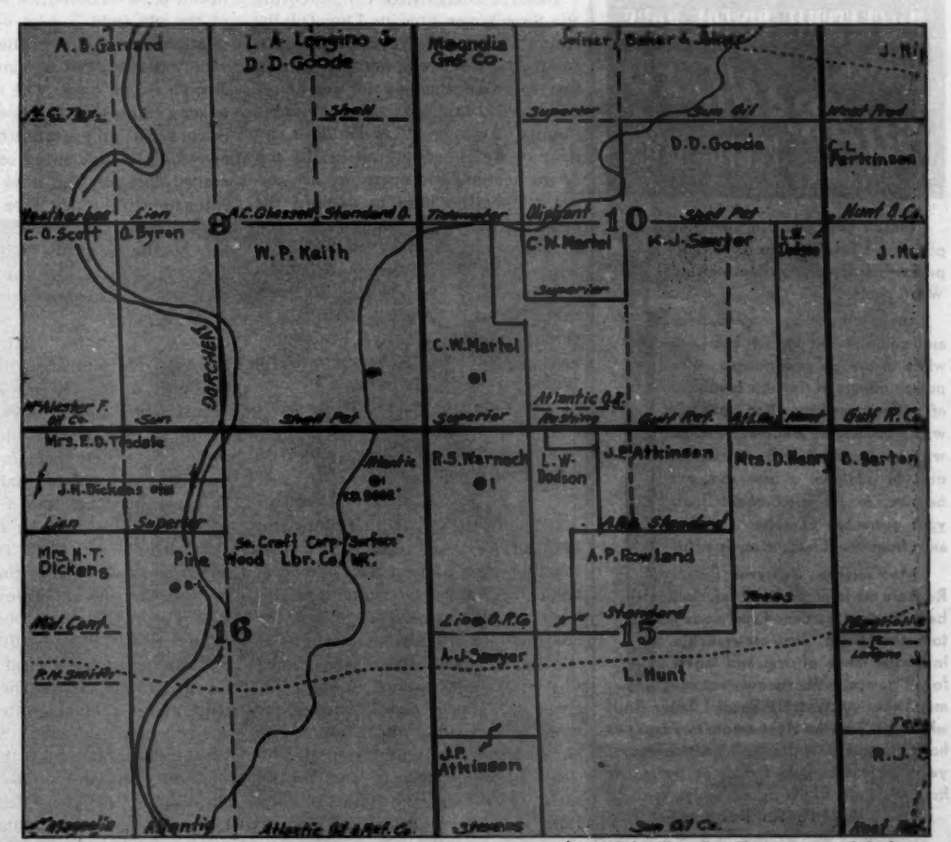
Memphis Natural Gas Co.'s No. 3 Frost Lumber, Section 15-22-3, 1,000,000 cu. ft. of gas, rock pressure 1,020 lb., total depth 2,204 ft. H. L. Woods' No. 1 Union Power, Section 29-21-3, 2,000,000 cu. ft. of gas, rock pressure 1,025 lb., total depth 2,212 ft.

ARKANSAS COMPLETIONS

Wildcat—Clay County

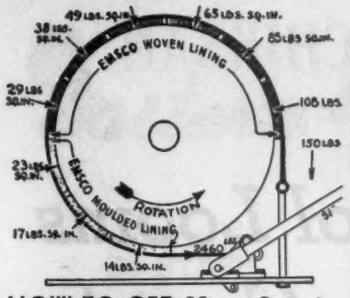
A. L. Ginther's No. 1 Gordon, 116 ft. W, 120 ft. N of

(Continued on Page 100)



Globe Map Co., Shreveport and Jackson

Dorcheat field of Columbia County is entering the active drilling ranks of Smackover-lime fields with four tests. The east offset to the discovery, Lion Oil Refining Co.'s No. 1 Warnock, has topped the porous oolitic-lime pay showing gas and distillate



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Among the Drilling

OLIVE DRILLING CO. is drilling for the Coralena Oil Co. the following wells: No. 5 Dumler, NW NW NW Section 36-15s-14w;; No. 7 George Sellens, CEL NE SW Section 20-15s-13w; and has rig on location for No. 1 Ehrlich, SW SE SW Section 19-14s-13w, all in Russell County, Kansas. It has just completed the thirty-second well since spring for the Coralena Oil Co.

RED IRON Drilling Co. has three rigs active in the Shreveport, Louisiana, district. In northeastern Mississippi, near the Alabama line, in Itawamba County, rig is drilling below 1,730 ft. on G. C. Grasty and others' No. 1 Kentucky Lumber Co. This test has had two shows of oil thus far and is projected to the Devonian. Two other Red Iron rigs are drilling in Rodessa. Travis and Red Iron's No. 1 Chandler, located in Caddo Parish, is acidizing preparatory to completing, and W. C. Feazel's No. 1 Heflin, in Miller County, Arkansas, is on the pay and preparing to run casing.

DELTA DRILLING CO. is coring the Smackover lime in Lion Oil Refining Co.'s No. 1 Warnock, east offset to the discovery and the second test to reach the pay in the newly discovered Dorcheat field of Columbia County, Arkansas. Gas-distillate saturation was encountered in the top of the section, and operators are coring the oolitic lime to explore the section. Two other rigs are located in Arkansas in the Schuler field, where one well is being abandoned and another is drilling for the Jones sand, both for Lion Oil Refining Co. One Delta rig is active in Illinois, having completed a Cowling well in Wabash County. It is again drilling in the vicinity. Shell Oil Co., Inc.'s deep Chapel Hill test in Smith County, Texas, No. 1 Campbell, is drilling with a Delta rig below 6,700 ft.

JOHN R. BUNN, drilling contractor of Tyler, Tex., has received contracts for two new eastern Texas wildcat tests. In Kaufman County and for T. G. Shaw, trustee, Fort Worth, the contractor will drill No. 1 Angus B. Wayne, located in the southeast part of the B. S. Newman Survey, Abstract 363, approximately 3 miles due west of Cedarville and 8 miles east of Kaufman. It will be carried to 6,800 ft. for a test of the Trinity series including the Paluxy, Glen Rose and Travis Peak. In Navarro County the drilling contractor is associated with C. O. Bunn and A. J. Willis and has formed the Sumas Oil Co. for the drilling of its No. 1 Alex Stroder, southern part of the John White Survey. It is contracted to 3,500 ft.

ARROW DRILLING CO., Odessa, Tex., will drill a half-mile east outpost to the North Cowden pool of Ector County, West Texas. It will be the company's No. 1 Midland Farms, located 440 ft. from the south and west lines of Section 100, W. L. Callahan Survey. The location is just east of some of the largest production in the field.

BUTLER & HORNE DRILLING Co., Dallas, Tex., has opened a new pay on the east side of the 13-year-old Noodle Creek field of Jones County, West Central Texas. The drilling company's No. 1 J. C. Thompson was completed for 10 bbl. hourly or at the rate of 240 bbl. daily. Production is from the Noodle Creek lime at 2,375 ft. which is the main productive zone in the field proper; however, the new well is east of the area being developed by Humble Oil & Refining Co. from several shallower pays. The entire eastern side of the old field is now open to production from either the Tannehill sand, the Swastika sand, or the Noodle Creek lime. The new well is located in Section 48, Block 18, T.&P. Survey, ¼ mile from the townsite of Noodle. The drilling company has staked location for a ½-mile north extension to the new area and on the Huddleston tract, while offsetting the discovery to the southeast, Ungren & Frazier of Abilene have staked a location.

L. W. LITTLE DRILLING CO., Dallas, Tex., contractor at the Jones Drilling Co. and Hager's No. 1 H. K. Armstrong, northwestern Denton County, North Texas, wildcat test, is indicating a new pool for the area. Test is located about a half mile west of a gas producer and a mile north of two oil producers in the shallow Bolivar field. It is 320 ft. from the south and 350 ft. from the east lines of the L. Moore Survey, Abstract 824. Production was found in sand drilled from 1,608 to 1,619 ft. and a drill-stem test recovered 900 ft. of oil on initial tests. The well was shut in for 12 hours after which it was opened to flow at the rate of 10 bbl. hourly through tubing. It is 40-gravity oil and no salt water is showing in the well. Storage tanks have been erected for final gage.

ROWAN DRILLING CO. opened a new sand at the Venice field, Plaquemines Parish, Louisiana, with the

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completion of Tide Water Associated Oil Co.'s No. 6 Buras Levee Board. The well was drilled to a total depth of 10,745 ft., and production was obtained by perforating casing opposite oil sand at 10,515-10,610 ft. Initial production was 228 bbl. of 38.7-gravity oil per day, flowing through a ⅛-in. choke. This is the sixth producing horizon in the field. On the Danbury dome, Brazoria County, Texas, Rowan Drilling Co.'s No. 11 Jamison estate is drilling below 6,400 ft.

HOUSH & THOMPSON are preparing to drilling below 8,380 ft. on Gulf Oil Corp.'s No. 1 Russell Brown, a wildcat located in the Juliff area, Fort Bend County, Texas. In Allen Parish, coastal Louisiana, Housh & Thompson's No. 1 Industrial Lumber Co., located on the Ten Mile prospect, has been spudded.

N. W. HUNTER has logged encouraging showings in W-M Oil Co.'s No. 1 W. A. Smith, a wildcat test located in the Buna area, southern Newton County, Texas. The well is coring below 7,959 ft. Oil and gas shows were logged at intervals from 7,774-7,959 ft.

H. H. HOWELL staked location for a wildcat test in Jim Wells County, Texas. The well is located on the Clara Driscoll lease in the La Anima Sola grant, and will be drilled to a depth of 6,500 ft.

COMMERCIAL DRILLING CO. extended production at the East White Point field, San Patricio County, Texas, approximately 2,000 ft. with completion of the company's No. 2 Kate Dunn. Production was obtained by perforating casing at 5,605-07 ft., and the well flowed 146 bbl. per day through ⅛-in. choke.

HARRY L. EDWARDS DRILLING Co. is preparing to test Pan American Production Co.'s No. 1 J. F. Richardson, located on the southeast edge of the Hardin field, Liberty County, Texas. The hole is bottomed at 7,668 ft., and 5½-in. casing was cemented at 7,661 ft.

SUMMIT DRILLING CO. is drilling for Russell S. Tarr, N. B. Feagin, and associates of Tulsa at No. 1 Campbell, SE NE SE Section 24-10-7e, wildcat in the North Bethel sector of Seminole County, Okla. The well is below 3,100 ft.

FAIN DRILLING CO., at Continental Oil Co.'s No. 1 Proctor, in C NW¼ Section 28-10-20w, south of Canute, in Washita County, Oklahoma, was drilling cement at 11,045 ft. after setting plug.

Harry L. Edwards Drilling Co.'s morning-tour crew on No. 1 Billeaud, Broussard, La.

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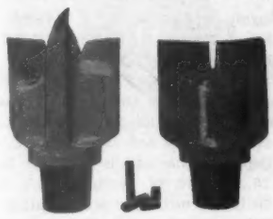

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Michigan Field Report

By
O. C. PRESSPRICH

Ottawa County's 4,000-bbl. Well Will Spur Field Work

SAGINAW, Mich., Dec. 11.—A 4,000-bbl. well in southwestern Michigan shared interest in Michigan oil circles this week with a new development in the southeastern part of the state which brought in a free-flowing well in Monroe County. Otherwise there was little to feature activity, aside from indications that the Walker-Wyoming field in Kent County appears to have reached its peak.

The big well, in Ottawa County, was completed by George L. Kernodle on the Joe Snip lease in Section 25, Tallmadge Township, 7n-13w. An extension of the Tallmadge development, it is the farthest western well. Completed at 1,872 ft. in the Traverse, No. 1 Snip flowed for several hours at a reported rate of around 180 bbl. an hour after being acidized. It was shut in to await provision of storage facilities.

The week brought four other completions in Tallmadge, three of them moderate producers, the other a dry hole, but the Kernodle well, reputedly the biggest in the history of the Kent-Ottawa development, undoubtedly will mean considerable more activity in that part of the field.

A. V. Oil & Gas Co.'s No. 3 Gaertner, in Section 19 of Dundee Township, 6s-6e, of Monroe County, is the first big producer in the area. As the week ended the well continued good for 300 bbl. a day, its initial having been as high as 50 bbl. an hour. Ironically, the well was brought in only a few weeks after the death of Alfred Violette, president of the developing company. The pay was in the Trenton lime at about 2,080 ft. Oil men saw in the success of the development the possibility of more production to the east. Although Monroe County has had sporadic spurts in oil activity over the past 10 years, only small producers had been found heretofore. The Gaertner development marked the first natural production from the Trenton formation in Michigan. A heavy flow of gas accompanied the oil.

Otherwise in Michigan the week added only 11 oil wells, the best of these rated at 185 bbl. a day after acid treatment, the smallest, 50 bbl. In addition 14 tests were abandoned as dry holes, one small natural-gas well was completed and one gas test was abandoned. Kent County had five producers, only one rating as good as 150 bbl. a day, while four other tests in that county were failures. The Salem field in Allegan County added two wells and Pure Oil Co. got another moderate producer in Clare County's Redding pool.

A Socony-Vacuum Oil Co. test in Allegan's Leighton Township, 4n-11w, was a failure, as was Charles W. Cook's Hazekamp test in Overisel, 4n-14w. The Salem wells were completed by Michigan Devonian Petroleum Co. in Section 15 and Salem Gas & Oil Co. in Section 23-4n-13w, but in Wayland, 3n-11w, Seaboard Oil Co. of Delaware chalked up a dry hole.

Hendershott & Potts abandoned a test in Berrien Township, 6s-17w, Berrien County, at 779 ft. while in Gladwin's Grant Township, 18n-2w, Sun Oil Co.'s No. 1 Cameron was a failure at 3,953 ft. Gordon Oil Co.'s No. 1 Miller in Kent County's Paris Township, 6n-11w, was abandoned at 1,940 ft., Michigan Devonian in Section 8 and Muskegon Oil Corp. in Section 23 of Wyoming, 6n-12w, also chalked up failures. Meanwhile the decline in Van Buren County continued as Shelbow Oil Co. abandoned a test in Bangor Township, 2s-16w, and Clapsaddle & Harris failed to get a producer in Columbia, 1s-15w, abandoning a Section 27 project at 1,153 ft.

The gas-test failure was Prudential Oil & Gas Corp.'s No. 1 Douglass-Wilson in Montcalm County's Ferris Township, 11n-5w. The well completed for 2,600,000 cu. ft. a day is W. E. Ross' No. 1 Decker in Section 11 of Clayton Township, 20n-4e, Arenac County.

Twenty-five more drilling permits were issued by the state Conservation Department last week, eight being for tests in Allegan County, seven for Kent County, four for Ottawa, two for Kalamazoo, one each for Clare, Barry, Monroe and Van Buren locations.

Summary of the week's development:

Allegan County

Leighton Township (4n-11w)—Socony-Vacuum Oil Co., Inc., abandoned No. 1 Fred Schad, SE SE SE Section 21, when the test was found dry at 1,990 ft.

Overisel Township (4n-14w)—Charles W. Cook's No. 1 Albert Hazekamp, NE NW NW Section 34, was dry and abandoned at 1,618 ft.

Salem Township (4n-13w)—Michigan Devonian Petroleum Co.'s No. 4 Lawrence R. Green, SE NW SE Section 15, had initial production of 185 bbl. a day after acid treatment at 1,576 ft. After-acid yield was 132 bbl. a day at 1,589 ft. from Salem Gas & Oil Co.'s No. 5 Alois Smith, SE NW NW Section 23.

Wayland Township (3n-11w)—Seaboard Oil Co. of Delaware's No. 1 William Dolezal, NW SE NW Section 13, was unsuccessful, the test being abandoned with the hole at 2,010 ft.

Arenac County

Clayton Township (20n-4e)—W. E. Ross completed No. 1 F. Decker, C SW SW Section 11, as a natural-gas well at 1,212 ft. The test brought a daily flow of 2,600,000 cu. ft.

Berrien County

Berrien Township (6s-17w)—Hendershott & Potts abandoned No. 1 L. Bennet, NW NE SW Section 9, at 779 ft.

Clare County

Redding Township (19n-6w)—Pure Oil Co.'s No. B-12 James S. Bicknell, C S½ SW NE Section 28, was completed at 3,894½ ft. for production, after acid treatment of 120 bbl. a day.

Gladwin County

Grant Townshhip (18n-2w)—Sun Oil Co.'s No. 1 J. and D. Cameron, C E½ NE NE Section 10, was a failure, the test being abandoned at a depth of 3,953 ft.

Montcalm County

Ferris Township (11n-5w)—Prudential Oil & Gas Corp.'s No. 1 Douglass-Wilson, NE SE SW Section 22, a gas test, was abandoned at 1,109 ft.

Kent County

Paris Township (6n-11w)—Gordon Oil Co. and others, making an extension test, abandoned No. 1 Ellen M. Miller, NW NW NW Section 31, at 1,940 ft.

Walker Township (7n-12w)—Another Walker failure was recorded as Gordon Oil Co. and others abandoned No. 1 J. C. Maynard, SW NW NE Section 28, after drilling to 2,000 ft. Fisher-McCall Oil & Gas Co. and others' No. 5 W. E. Sackner, NE NW NE Section 29, was good for 150 bbl. a day at 1,917 ft. after being given acid treatment, while their No. 2 Samuel Newhouse, SE SE NW Section 29, was rated at 129 bbl. a day after being acidized at 1,879 ft. W. L. Harvey's No. 2 George Burgess, NE NE NE Section 32, was a 50-bbl. well completed at 1,930 ft. Rating the same production, No. A-2 George Engelsma, NE NW NW Section 32, was completed and acid treated at 1,893 ft. by Smith Petroleum Co. and others. Gordon Oil Co. and others' No. 2 United States Gypsum Co., NW SE SW Section 34, completed at 1,778 ft., got initial daily production of 56 bbl. after being treated.

Wyoming Township (6n-12w)—Michigan Devonian Petroleum Co.'s No. 1 J. F. Boyland and others, SE SE NE Section 8, was abandoned as dry at 1,908 ft. Muskegon Oil Corp.'s No. 1 Grand Rapids Land Association, NW NE NW Section 25, was dry and abandoned at 1,929 ft.

Ottawa County

Allendale Township (7n-14w)—C. E. Weller and Dapar Oil Co.'s No. 1 Martin G. J. Vos, NE SE NE Section 33, was dry and abandoned at 1,822 ft.

Tallmadge Township (7n-13w)—Biggest well thus far in Ottawa development was the George L. Kernodle's No. 1 Joe Snip, SW SW NE Section 25, for which initial potential at the rate of 4,000 bbl. was claimed, after acid treatment. Depth of the well is 1,872 ft. In SE NE SW Section 25, Gaylord W. Norton, Inc.'s No. 2 Joe Bjork rated 60 bbl. a day after acid treatment at 1,866 ft. while Fisher-McCall Oil & Gas Co.'s No. 4 L. H. Goodale, NE SW NE Section 25, was good for 150 bbl. a day after acidizing at 1,859 ft. Smith Petroleum Co.'s No. 1 Adrian Heyboer, SW SW NE Section 25, produced 100 bbl. a day after acid at 1,862 ft. N. R. Dodd's No. 1 DeKorne, NE NW NE Section 36, was abandoned as a dry hole at 1,905 ft.

Zeeland Township (5n-14w)—A. S. Cochran's No. 1 A. Schut, NW SW NE Section 9, was abandoned as a dry hole at 1,685 ft.

Van Buren County

Bangor Township (2s-16w)—Shelbow Oil Co.'s No. 2 Lulu Drake, SE SW NW Section 28, was dry and abandoned at 1,017 ft.

Columbia Township (1s-15w)—Clapsaddle & Harris' No. 1 O. Schiles, NE NE NW Section 27, was a failure at 1,153 ft.

Approximately 40,000 acres of state-owned land was leased last week for oil and gas wildcatting in Michigan, much of it being in Roscommon County where some oil men believe there may be crude in commercial quantities.

As the lands were being offered for lease, the state geology division reported a balance between production and demand for Michigan crude at around 65,000 bbl. a day. P. J. Hoffmaster, supervisor of wells, pointed out that production shows some increase in prorated fields while it is falling in those areas without limitations. About 2,700 wells now are producing, about 500 more than a year ago, 1,300 new wells having been drilled this year. Severance taxes collected by the state in October totaled $41,591, an increase of more than $6,000 over September. Most of the increase was from production in Clare and Kent counties.

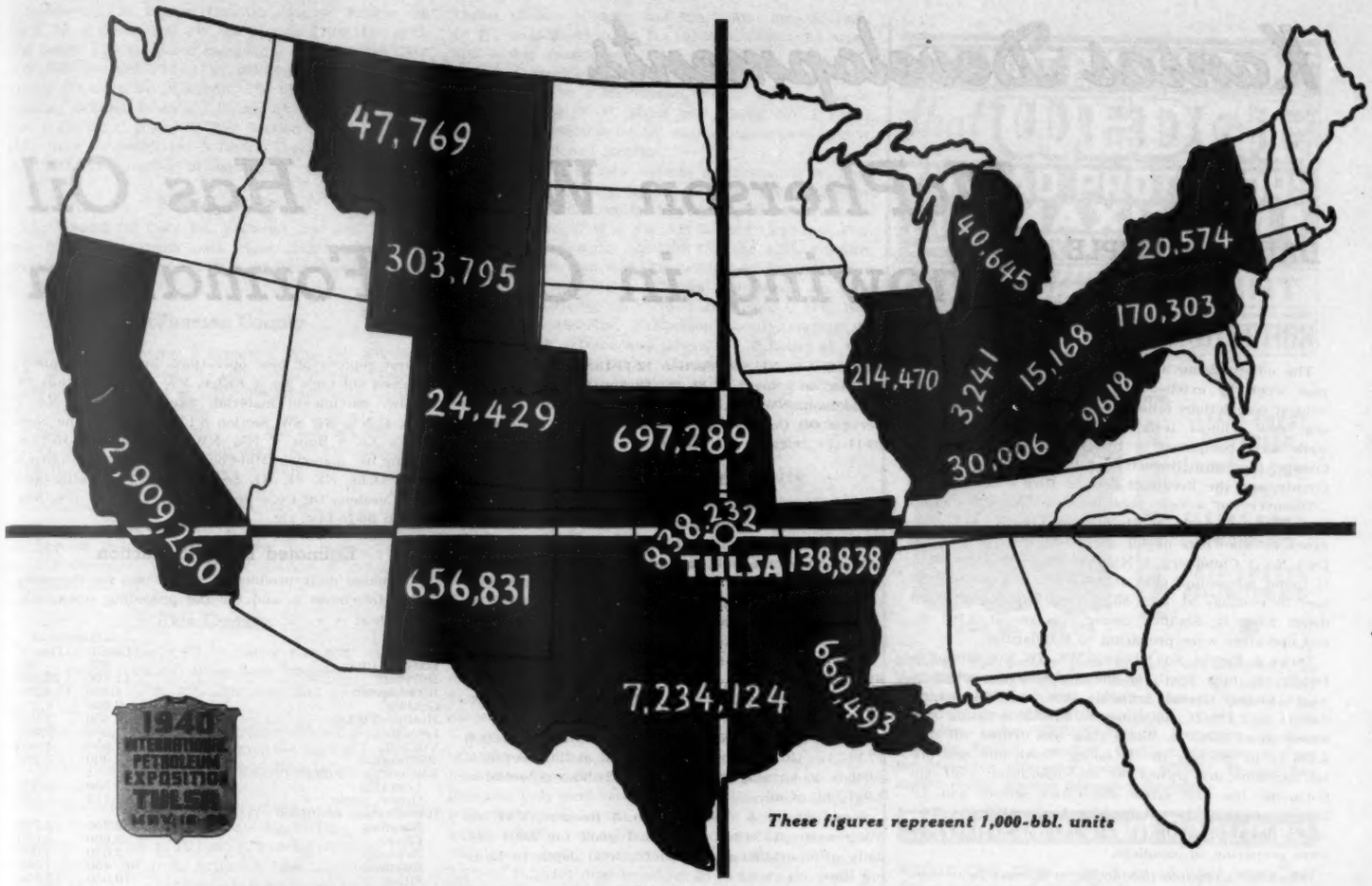
The fifth refinery completed this year in Michigan, the plant of Lakeside Refining Co. at Kalamazoo, was getting into production this week. It is designed to handle 1,500 bbl. of crude a day and its supply will come from the Kent County area. President and manager of the refinery is L. W. Brummitt, formerly of Detroit. Other officers include Arthur and Edward

(Continued on Page 97)

Western Kentucky

(Continued from Page 75)

Ohio County, Taffy district, E. DeHart and others' No. 6 Bartlett heirs, spudding in. Sunnydale district, J. W. Tuttle and others' No. 6 Lena Berry, dry hole through upper Pennsylvanian, total depth 190 ft. No. 7 moving in. Morris Lebow's No. 4 Arthur Coy, dry hole, total depth 635 ft. H. C. Amos and J. Traylor's No. 1 Lee Lewis, drilling at 170 ft. W. M. Jewell and others' No. 1 W. H. Powers, rigging up. J. Tooms and others' No. 3 T. H. Smith, 10-bbl. well in upper Pennsylvanian, total depth 170 ft. South Fordsville district, Henry Shaw's No. 3 Roy O. Muffett, moving in.



TULSA is *CENTRAL in relation to*

PROVEN OIL RESERVES

Tulsa's position as "Oil Capital of the World" is predicated on her central location with relation to *past* and *present* oil producing, transporting and refining activity. But the above study of the location of the nation's proven oil reserves shows that the geographical distribution of *future* oil activities will parallel that of past and present activity. It shows that Tulsa will remain *for years to come*, geographically central in this great industry.

Referring to the great reserves of Texas, it should be borne in mind that these are widely distributed—in the Panhandle directly west of Tulsa—in East Texas southeast of Tulsa—in the Gulf Coast, Central and West Texas, south and southwest of Tulsa—but all comparatively near at hand. The map clearly shows it would be impossible to find an important oil city more centrally located in the national oil picture—both present and future—than in Tulsa.

Tulsa is almost *exclusively* an oil city. Her modern office buildings were built by oil men and oil companies. Her hotels are supported by oil patronage. Her banks grew large through the financing of oil producing, pipe lines, and refining.

That Tulsa is headquarters for more major oil producing, pipe line and refining companies than any other city, and is their equipment buying headquarters, has long been known. The map of proven reserves shows she will *continue* to occupy this position. The oil equipment manufacturer who has not established permanent sales representation in Tulsa is overlooking a basic sales opportunity. Investigate. The Tulsa Chamber of Commerce will be glad to prepare a special report for you on the sales opportunity for your business in Tulsa.

Why People PREFER to live in Tulsa

Mild, Sunny Climate

Too far south to suffer from rigorous, paralyzing winters, and far enough north to escape the torrid heat belt—Tulsa enjoys a mild, sunny climate, without extremes of heat or cold.

Spring and fall are the long seasons. Short periods of high temperature in summer are moderated by cooling breezes from the Gulf of Mexico, and winters are temperate, with periods of extreme cold rare and of brief duration.

Mean monthly temperature ranges from 37.9 degrees in January to 82.3 degrees in July, with humidity of 52 in August to 69 in January. Sunshiny days are in the great majority, and times are rare when artificial indoor light is necessary during the daylight hours.

There are many Oil Centers
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Kansas Developments

By
DAL DALRYMPLE

McPherson Wildcat Has Oil Showing in Chat Formation

The oil-producing area in Kansas was enlarged the past week by extensions to several pools, although wildcat completions failed to open any new fields. Several new wildcat tests were announced. Extension wells were completed in the Westhusin area, Rooks County; the South Burnett and Walters pools in Ellis County, and the Bredfeldt pool in Rice County.

Discovery of a new pool between the Ritz-Canton and Roxbury pools in McPherson County was indicated by showings of oil at Westgate-Greenland Oil Co.'s No. 1 Chindberg, C N½ NE SE Section 18-18-1w. It found Mississippi chat at 2,763 ft., and had saturation in cuttings at 2,781-83 ft. and 2,785-88 ft., total depth 2,790 ft. Six-inch casing was set at 2,763 ft., and operators were preparing to standardize.

Duwe & Farris' No. 1 Boye, CWL SW SW Section 9-16-10w, ½ mile north of the Stoltenberg pool, Ellsworth County, found Arbuckle lime at 3,364 ft. and drilled to 3,371 ft., total depth. Five-inch casing was cemented at 3,365 ft. When plug was drilled, oil rose 2,100 ft. in the hole in 3½ hours. North and east offset locations are owned by the operators; Gulf Oil Corp. has the west offset; the Cities Service and Atlantic companies the southwest offset, and Indian Territory Illuminating Oil Co. the south offset. Operators were preparing to complete.

December allowable production in Kansas fields was set at 168,000 bbl. daily by the Corporation Commission. This is 2,600 bbl. under the November allowable, but is the same as the Bureau of Mines estimate. The new allowable does not include nominations for special allowables and oil now being run under court orders, according to Theo. A. Morgan, conservation director.

Independent operators predominated in Kansas field activity in the first 11 months of this year, a summary of completions disclosed. Of 1,215 wells completed in the state in that period, 62 per cent were drilled by independent operators and small companies, while only 38 per cent were drilled by major companies.

Ellis County

Frank Hollow and others' No. 1 Bennifield, C S½ SE SE Section 3-12-18w, extended the Walter area, Ellis County, ½ mile westward. It topped Arbuckle lime at 3,652 ft., and was bottomed at 3,658 ft., was acidized with 2,000 gal., pumped 12 bbl. of oil an hour and was completed for echometer potential of 631 bbl.

Earl F. Wakefield's No. 1-A Burnett, SW SE SE Section 1-11-18w, South Burnett pool, was completed in Arbuckle lime at 3,465-67 ft., total depth. It was acidized and indicated potential by echometer method was 14,800 bbl., with 3,000 bbl. daily allowable potential. It extends South Burnett pool about ½ mile northwestward and indicates the connecting of that area with the Burnett pool to the north.

Phillips Petroleum Co.'s No. 2 Peavey, CNL NE SE Section 13-11-18w, was completed for maximum allowable potential of 3,000 bbl. of oil daily, after depthograph calculation, in Arbuckle lime at total depth of 3,328 ft.

Central Petroleum Co.'s No. 1 Hadley, C N½ NW SE Section 12-11-18w, was bottomed at 3,365 ft. in Arbuckle lime and made daily potential of 110 bbl. of oil.

Same company's No. 6 Hadley, SW NE SE Section 12-11-18w, made daily potential of 1,897 bbl. of oil from Lansing lime at 3,096 ft., total depth.

Shell Oil Co., Inc.'s No. 28 Rumsey, NE SW NE Section 23-11-17w, Bemis field, made initial potential of 142 bbl. of oil at total depth of 3,422 ft. in Arbuckle lime.

New work in Ellis County: Shell Oil Co., Inc.'s No. 30 Rumsey, SE NE NE Section 23-11-17w, cellar and pits; Earl Wakefield's No. 2 Burnett, C E½ NW NE Section 1-11-18w, pits; Phillips Petroleum Co.'s No. 2 Dites, C N½ NE SW Section 12-11-18w, set casing and waiting on cement at 86 ft.; Dickey Oil Co.'s No. 1-C Henderson, NW cor. Section 6-11-17w, location; Cities Service Oil Co.'s No. 13 Rumsey, SW NE SE Section 23-11-17w, rigging up rotary.

Russell County

Coralena Oil Co.'s No. 4 Dumler, CEL E½ NW Section 36-15-14w, Trapp field, Russell County, was acidized and completed for initial daily potential of 2,034 bbl. of oil in Arbuckle lime at 3,316 ft., total depth.

Same company's No. 2 Sellens, SW SW SE Section 17-15-13w, Coralena pool, was bottomed at 3,345 ft. in Arbuckle lime and made daily production of 153 bbl. of oil.

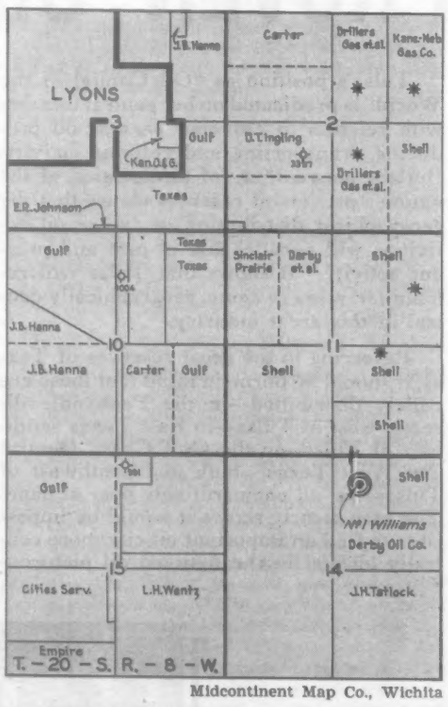
Stanolind Oil & Gas Co.'s No. 4 Roesner, CSL NW SW Section 9-15-13w, was acidized and made daily potential of 525 bbl. of oil in Lansing lime at 3,149 ft., total depth.

Same company's No. 2-B Krug, NE NE SE Section 27-14-14w, Gurney pool, was acidized at total depth of 3,040 ft. in Lansing lime and made 24-hour potential of 1,927 bbl. of oil.

Stanolind Oil & Gas Co.'s No. 5 Roesner, CNL SE SW Section 9-15-13w, was rated good for 2,004 bbl. daily after acidizing at 3,065 ft., total depth in Lansing lime.

R. H. Shields' No. 3 Rogg, CNL SW SW Section 28-14-13w, Hall pool, was acidized and made initial daily potential of 595 bbl. of oil in Lansing lime at 2,914 ft., total depth.

W. I. Southern, Inc.'s No. 2 Letsch, SE SE SW Section 17-15-13w, Coralena pool, had initial daily yield of 96 bbl. of oil at total depth of 3,271 ft. in Arbuckle lime.



Midcontinent Map Co., Wichita

First oil in the Lyons gas field, near the town of Lyons in Rice County, was found in Derby Oil Co.'s No. 1 Williams, Section 14-20-8w, which found Wilcox sand productive at 3,274-84 ft. It is about ½ mile south of nearest gas production

First reports of new operations in Russell County: Coralena Oil Co.'s No. 1 Erlich, SW SE SW Section 19-14-13w, moving in material; Skelly Oil Co.'s No. 7 Rein, C N½ NE SW Section 8-15-13w, pits; same company's No. 8 Rein, C N½ NW SW Section 8-15-13w, moving in material; Mid-Continent Petroleum Corp.'s No. 3 Ochs, NE SE NE Section 35-15-14w, cellar and pits; Coralena Oil Co.'s No. 6 Dumler, C W½ E½ NW Section 36-15-14w, rig.

Estimated Daily Production

Estimated daily production for Kansas for the week ended December 9, and for the preceding week, was as follows:

	Barrels	
	Dec. 9	Dec. 2
Oxford City	800	700
Burrton	11,100	10,950
Ritz-Canton	4,350	4,250
Graber	2,600	2,350
Hollow-Nikkel	2,350	2,200
Lerado	1,050	1,050
Voshell	1,650	1,600
Wellington	2,300	2,250
Ellsworth County:		
Lorraine	1,350	1,850
Other pools	1,110	1,860
Rice-Barton counties:		
Bloomer	2,350	3,700
Chase	3,600	3,650
Geneseo	3,650	3,050
Raymond	450	550
Silica	10,050	12,850
South Silica	1,400	2,500
Keesling	150	1,100
Wherry	2,600	3,600
Miscellaneous Rice	4,705	4,350
Miscellaneous Barton	10,035	10,865
Russell County	22,450	27,000
Sedgwick County	3,400	3,250
Ellis County:		
Bemis	6,700	6,700
Miscellaneous	4,685	5,000
Kingman County	735	675
Stafford County	7,665	8,185
Greenwood County	8,600	8,600
El Dorado	7,800	7,750
Other fields	31,865	34,815
Total Kansas	161,550	177,250

Rooks County

Republic Natural Gas Co.'s No. 1 Riedler, C SW SW Section 31-10-17w, Rooks County sector of the Burnett pool, was completed at total depth of 3,604 ft. in Arbuckle lime, making echometer potential of 3,000 bbl. of oil daily.

C. W. Trickett and associates extended the Westhusin pool ½ mile southeastward at No. 1 Dougherty, C W½ NE NW Section 13-9-17w. It found Kansas City-Lansing series at 3,142 ft. and was completed in Lansing lime at 3,252 ft., total depth, for daily potential of 291 bbl. of oil.

J. H. Harvey's No. 2 Smith, C W½ NW SE Section 12-9-17w, had dug pits.

Stafford County

E. H. Moore, Inc.'s No. 5 Johnson, NE NE Section 13-24-11w, Zenith field, Stafford County, was bottomed at 3,769 ft. in Misener sand and made initial potential of 1,212 bbl. of oil on bottom-hole pressure computation.

Deep Rock Oil Corp.'s No. 1 Turner, C S½ SW SW Section 2-24-11w, was a location. Stanolind Oil & Gas Co.'s No. 5 Harbeson, C W½ NW NW Section 11-24-11w, set casing and was waiting on cement at 257 ft.

Barton County

Stanolind Oil & Gas Co.'s No. 6 Rose, CNL NW NE Section 3-20-11w, Silica field, Barton County, was completed for 204 bbl. of oil daily from Arbuckle lime at 3,309-11 ft., total depth.

Magnolia Petroleum Co.'s No. 18 Roetzel, South Silica pool, NE NE SE Section 24-20-11w, was acidized at 3,265 ft. in Arbuckle lime and made 24-hour potential of 2,417 bbl. of oil.

New work in Barton County: Sinclair Prairie Oil Co.'s No. 3 Oeser, SW SW SE Section 17-16-11w, drilling below 150 ft.; same company's No. 2 Oeser, NW NW SW Section 17-16-11w, drilling below 1,100 ft.; Derby Oil Co.'s No. 9 Esfeld, SW SW NW Section 29-16-11w, drilling below 1,570 ft.; Shell Oil Co., Inc.'s No. 1 Barth, C N½ N½ SW Section 15-17-11w, location; Tom Johnson's No. 9 Bitter, C N½ N½ SW Section 8-16-13w, moving in material.

Ness County

Continental Oil Co.'s No. 1 Unruh, SW SW NE Section 8-18-25w, Aldrich pool, Ness County, was completed for 260 bbl. of oil daily at total depth of 4,360 ft. in Mississippi lime.

McPherson County

Sunray Oil Co.'s No. 1 Briggs, C W½ SW NW Section 29-20-5w, Bornholdt pool, McPherson County, made initial potential of 1,423 bbl. of oil daily at total depth of 3,378 ft. in chat.

Clyde McGrew and others' No. 3-A Suffield, CSL SE Section 25-19-2w, Ritz-Canton area, was completed at 2,972 ft., total depth, in chat, making daily potential of 201 bbl. of oil.

New activity in McPherson County: Bennett & Grossman were moving in material for a test in C S½ S½ NE Section 25-19-1w; Mid-Continent Petroleum Corp.'s No. 1 Peterson, C W½ SW SW Section 29-20-5w, had dug cellar and pits.

Rice County

Shell Oil Co., Inc.'s No. 2 Reese, NE NW NE Section 22-19-9w, Cramm area, Rice County, was bottomed at 3,251 ft. in Arbuckle lime and produced 47 bbl. of oil, initially.

Garden & Spencer's No. 4-A Hauschild, SE¼ Section 15-21-7w, Wherry pool, was completed for daily potential of 747 bbl. of oil from conglomerate at 3,389 ft., total depth.

The Bredfeldt area was extended nearly 1 mile southwestward at Saco Oil Co.'s No. 1 Otto Habiger, SE SE SW Section 12-18-10w. It had initial daily yield of 124 bbl. of oil from Arbuckle lime at total depth of 3,268 ft.

Continental Oil Co. and others' No. 4 Johnson, SW SE SW Section 12-18-8w, was drilling below 2,764 ft. Bishop Oil Co.'s No. 2 Reese, NW NE NW Section 22-19-9w, was building rotary rig. Cities Service Oil Co.'s No. 2 Pulliam, C W½ W½ SE Section 33-19-9w, was a location; Skelly Oil Co.'s No. 7-B Volkland, C S½ S½ NW Section 5-18-10w, was building rotary rig.

Butler County

Rex & Morris were drilling below 370 ft. at No. 3-B DeMoss, SW NW SE Section 5-28-7, new operation in Butler County.

Cities Service Oil Co.'s No. 19 Finney, SE NW SE Section 4-26-5, was moving in material.

Wildcat Completions

Stanolind Oil & Gas Co.'s No. 1 Bredfeldt, CSL SW NE Section 2-19-10w, Rice County wildcat, topped Lansing lime at 2,960 ft., found Arbuckle lime at 3,335 ft., cored at 3,337-49 ft., total depth, recovered dolomite with good porosity and a slight showing of oil, but was dry and abandoned.

H. B. Garden and others' No. 1 Misener, C N½ NW NE Section 21-21-7w, wildcat south of the Wherry field, Rice County, topped conglomerate at 3,379 ft., Mississippi lime 3,391 ft., had a hole full of water with a slight showing of oil at 3,420 ft., total depth, and was abandoned.

Sam Schneider's No. 1 Steckel, C W½ SW NE Section 11-20-12w, Barton County wildcat, found Lansing lime at 2,715 ft., and had Arbuckle lime at 3,351-3,404 ft., total depth. Nothing was showing in cores at 3,351-60 ft. and 3,360-75 ft., and it was dry and abandoned.

Fain Drilling Co.'s No. 1 Briggs, CWL SW SW Section 21-20-5w, wildcat in McPherson County, found Mississippi lime at 3,495-3,586 ft., total depth, and was dry and abandoned.

Shell Oil Co., Inc.'s No. 1 Bender, SW SW SE Section 20-15-14w, Russell County wildcat, found Arbuckle lime at 3,378 ft., total depth 3,430 ft., and was dry and abandoned. It topped Lansing lime at 3,095 ft.; conglomerate at 3,354 ft.

Greenway Oil Co.'s No. 1 Grosdedier, C E½ SE NE Section 24-13-20, wildcat in Douglas County, topped Hertha formation at 432 ft. and was dry and abandoned at 740 ft., total depth.

Hollett's No. 1 Butler, SE SW SE Section 28-20-15, Coffey County wildcat, had Mississippi lime at 1,614-37 ft., total depth 1,647 ft., the hole filled with water and it was abandoned.

C. L. Carlock's No. 1 Hoyer, C SE NW Section 6-21-1w, location for a McPherson County wildcat, was an abandoned rig. F. O. Haun and others' No. 1 Ernst, NW NW SW Section 6-8-16, wildcat in Jackson County, was an abandoned location.

First reports of new wildcat operations: I. W. Murfin and others' No. 1 St. Aubyan, CSL SW SE Section 1-15-15w, Russell County, location; Howard Brunson's No. 1 Wondra, C W½ SW NE Section 15-17-12w, Barton County, cable rig; Shell Oil Co., Inc.'s No. 1 Smith, SE SE NW Section 9-21-11w, wildcat in Stafford County, moving in material; Central Petroleum Co. and Springrose Drilling Co.'s No. 1 Swanson, C N½ NW NW Section 18-20-5w, McPherson County, rigging up rotary; Ralph Wixson and others' No. 3 Bolin, SE SW NE Section 1-27-6, Butler County, location; Harrington & Lorieaux's No. 1 Bolton, SE SE NE Section 30-17-4, Marion County, location; L. M. Jones and others' No. 1 Kapaun, NE NW NE Section 16-18-4, machine.

Forest City Basin Activity

ST. JOSEPH, Mo., Dec. 11.—The initial attempt of the Pawnee Royalty Co. of Odessa, Tex., to win the Nebraska State bonus of $15,000 for the first oil well in that state to produce as much as 50 bbl. of oil daily for 60 days failed on December 8, when the No. 1 Boice, discovery well near Falls City, produced only 35 bbl. of oil. Company officials interpreted the Nebraska offer to mean the well should produce a minimum of 50 bbl. for 60 consecutive days. No attempt was made to produce the well on December 9 and subsequently, but another effort to win the bonus will be made after the well has been reconditioned.

A clogged pump is blamed for failure of No. 1 Boice to yield less than the required 50 bbl. A large accumulation of paraffin was found in the pump cups when pumping rods were removed. It was presumed paraffin was responsible for the clogging, but an exact report awaited pulling of tubing. One theory was that the well had caved. Production is from Hunton lime at 2,276-87 ft., with pipe set about 50 ft. above the lime.

Total production at the end of 19 days of the official test, with state representatives constantly present as observers, was 1,126 bbl., an average of nearly 60 bbl. daily. The crew had pumped only 6 hours daily, or sufficiently long to produce in excess of the required 50 bbl.

Several days will be required to clean out the well. B. G. Guinn, one of the owners of the Pawnee Royalty Co., did not announce the course to be followed after the hole has been reconditioned. It is possible the well may be deepened farther into the Hunton zone, thought to be several hundred feet thick. It also may be acidized.

An analysis of the oil shows it to be mixed base crude, mainly paraffinic in lighter fractions and asphaltic in heavier fractions. Gasoline content is low, with low volatility and a poor octane number. Rating is zero octane. Considerable amount of hydrogen-sulfide was given off during distillation. Gasoline and kerosene was sour when tested. Gravity of the oil is 30.1°, corrected; gasoline content 12.5 per cent; kerosene content 14.9; gas-oil content 25.5 per cent; sulfur content 0.41 per cent; color, dark brown. Sale price has been 94 cents a barrel.

Pawnee Royalty Co.'s No. 1 Meyer, C NW NW Section 24-1n-15e, 1½ miles southwest of the discovery, was drilling around 1,200 ft.

Work continued at Stephens & Uhri's No. 1 Stauffer, SW SW NE Section 22-1n-13e, third active Richardson County test.

Ed Uhri of Humboldt, Neb., and Joe Higgins, of Lincoln, were reported working on a deal for a test on the old Arab Petroleum Co.'s block near Dawson, in western Richardson County. If the deal is completed, M. C. Lewis of Houston, Tex., who was the contractor on the J. H. Everitt well drilled some months ago at Mound City, Mo., is expected to drill the well. Tentative location is near the Arab's No. 1 Ogle, a dry hole which had showings of oil in Viola lime.

Northeast Missouri is fairly quiet with only two wells drilling, although others are in prospect. In Northwest Missouri interest is centered on Bob Miller's No. 1 Corrough, C SE SE Section 24-57-35w, just east of St. Joseph. It topped Mississippi lime at 1,201 ft., based the lime at 1,512 ft., was bottomed at 1,515 ft., and was underreaming preparatory to setting 10-in.

(Continued on Page 100)

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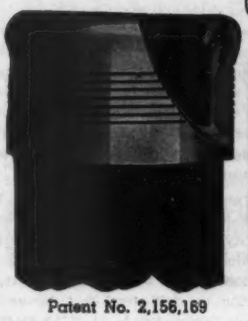

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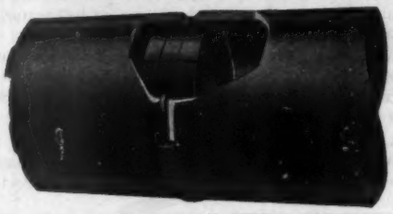

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Oklahoma Operations

By DAL DALRYMPLE

Brine Threatens Deep Tests; Canadian Wildcat Shows Gas

Intrusion of salt water at two deep Oklahoma wildcat tests was disappointing to operators at the week end. There were developments of a more encouraging note elsewhere in the state, however, including the completion of extension wells in the Frederick district of Tillman County; a showing of gas at a deep wildcat in Canadian County, and the opening of a new producing area in Kay County.

Johnson & Kemnitz and McGraw Oil Co.'s No. 1 Godfrey-Neff, SW SE NE Section 14-6s-6e, wildcat near Madill in Marshall County, was shut down for orders after drill-stem test indicated presence of salt water near the bottom of the hole. It was bottomed at 4,453½ ft. in Bergen sand. Prior to drill-stem test, several promising cores had been taken. Sands at 3,715-35 ft. and 3,803-38 ft., had fair porosity, and better porosity and saturation was found at 4,390-4,408 ft. Contract depth was 6,000 ft. The hole may be plugged back to test upper shows, or it may be deepened.

Sinclair Prairie Oil Co.'s No. 1 Ward, SE SE SE Section 30-7-1e, near Lexington in Cleveland County, was the other wildcat threatened by intrusion of salt water. Drill-stem test at 8,243 ft. in Arbuckle lime indicated 1,500 ft. of salt water. It probably will be plugged back to test a showing of oil around 6,200 ft.

W. R. Ramsey and others' No. 1 Mansfield, C NW NE Section 16-14-9w, wildcat northwest of Calumet, Canadian County, had gas fogging over the casing head as the crew continued bailing. Pipe was set near total depth of 9,611 ft., with casing perforated at 8,924-75 ft. and 9,045-71 ft. Considerable drilling mud and fluid was in the hole, but there was no salt water.

Continental Oil Co.'s No. 1 Goodboy, C SE NW Section 18-25-2e, outpost on the flank of the old Ponca City pool, Kay County, produced 40 bbl. of oil in 12 hours through tubing from sand at 3,901-37 ft., and was due for completion.

A big producer was a near completion in the Cement field, Caddo County, at Ohio Oil Co. and Ramsey Petroleum Co.'s No. 12 Pau-Kune, NW SW SE Section 3-5-9w. It was given potential rating of 5,070 bbl. of oil daily at total depth of 3,439 ft. in Rowe sand. Three other wells were completed in the field.

Independent operators have accounted for 83 per cent of wells completed in Oklahoma in the first 11 months of this year, a survey disclosed. The Sinclair Prairie company, with an interest in about 50 of the completed wells, led major-company operators for the period. The survey, which showed major companies owning only 17 per cent of the completions, included 1,623 wells.

Wildcat Operations

Eagle Oil Co. and others' No. 1 LaGrange, NW NW NW Section 8-23-3w, wildcat northwest of the Barnes pool, Garfield County, found Mississippi lime at 4,975 ft., had sand at 5,428-5,503 ft., total depth, and was dry and abandoned.

John Graham's No. 1-A Thomas, NW SW NE Section 19-5-7w, wildcat northeast of the Chickasha gas field, Grady County, cored at 3,522-37 ft., total depth, recovered 3 ft. of sand, 3 ft. of conglomerate, and 9 ft. of brown and green shale, and was dry and abandoned.

Aggis Drilling Co.'s No. 1 Sporleder, NW NE NW Section 25-11-9, outpost in Okfuskee County, had Allen sand at 1,583-1,664 ft., was bottomed at 1,672 ft., had a slight showing of oil and water, but was dry and abandoned.

Jewell's No. 1 Hibbard, SW SE SW Section 21-6-4, south of the St. Louis district, Pottawatomie County, set surface casing at 72 ft., but was abandoned.

Norbia Oil Co.'s No. 1 Osage, NW NE NW Section 9-24-6, an old wildcat southeast of Fairfax, Osage County, was plugged back from 2,893 ft. to 2,867 ft., ripped casing at 2,720-60 ft. without result, and was dry and abandoned.

New outposts: W. R. Holly's No. 1 Johnson, NW NW NE Section 36-3s-13e, wildcat about 6 miles southeast of Lane, Atoka County, spudded with rotary; Waite Drilling Co.'s No. 1 Garrett, SW SW SE Section 25-14-10, northeast of the Dunn area, southeastern Creek County, rigging up machine; Mariand Oil Co.'s No. 1 Wood, NW NW SW Section 19-25-1w, north of the Tonkawa field, Kay County, rig; Ray Stephens, Inc.'s No. 1 Allison, SW SW SW Section 21-6-10w, northwest extension area, Cement field, Caddo County, location; Gulf Oil Corp.'s No. 1 Lizzie, SE SE NW Section 4-1n-20w, west of the Altus pool, Jackson County, drilling below 250 ft.

Pottawatomie County

Russell Patterson's No. 1 Mann, SW NE SW Section 19-6-5, Gray pool, Pottawatomie County, bottomed at 2,899 ft. in Senora sand, and flowed 245 bbl. of oil in 18 hours. It was plugged back to 2,865 ft., shot at 2,830-65 ft., and completed for daily potential of 765 bbl.

Mudge Oil Co.'s No. 4 Baptiste, NE SE NE Section 20-7-4, St. Louis district, found Earlsboro sand at 3,545-62 ft., total depth, was shot at 3,548-60 ft., and pumped 40 bbl. of oil in 24 hours.

John Alcorn's No. 3 Rice, NW SE NE Section 32-7-4, topped dolomite at 4,215 ft., total depth 4,305 ft., was acidized and pumped 70 bbl. of oil and 1,500 bbl. of water in 24 hours.

J. F. Smith's No. 3 Wood, SW NE SW Section 31-7-5, was acidized without result, plugged back and ripped casing but was dry and abandoned at total depth of 4,298 ft. in shale. Dolomite was topped at 4,202 ft.

T. C. Iglehart's No. 2 Zoeller, SW NW NE Section 4-6-5, southeast extension area of the St. Louis district, had dolomite at 4,223 ft., total depth 4,360 ft., plugged back to 4,338 ft., water intruded and it was abandoned.

New operations in Pottawatomie County: Stephens' No. 1 Copland, SW NW NW Section 5-6-5, old well being deepened from 4,243 ft., drilling below 4,322 ft.; T. C. Iglehart's No. 1 Hillerman, NW NE NW Section 9-6-5, location; Alma Oil Co.'s No. 4 Johnson, NW SE SW Section 19-6-5, rig; Marko's No. 1 Coley, C NW SW Section 14-7-3, location; Vernie's No. 1-A Lydick, SE SE NE Section 24-7-4, old well being deepened from 4,287 ft., drilling below 4,320 ft.; Sinclair Prairie Oil Co.'s No. 1 Gilbreath, NW SE SE Section 25-7-4, old well being deepened from 4,316 ft., drilling below 4,334 ft.; same company's No. 1 Nealy B, NW SE SW Section 25-7-4, old well bottomed at 4,515 ft., drilling in new hole at 4,282 ft.; Elko Co.'s No. 2 Smith, NE SW SE Section 26-7-4, old well bottomed at 4,160 ft., rigging up standard tools to deepen; Stout's No. 1 Shewbert, SE NE NE Section 29-7-4, spudded; Pitts' No. 2 Billington, SW SW SE Section 8-7-5, location; Indian Territory Illuminating Oil Co.'s No. 5 Weems, NW SW SW Section 21-7-5, twin, cellar and pits.

Pontotoc County

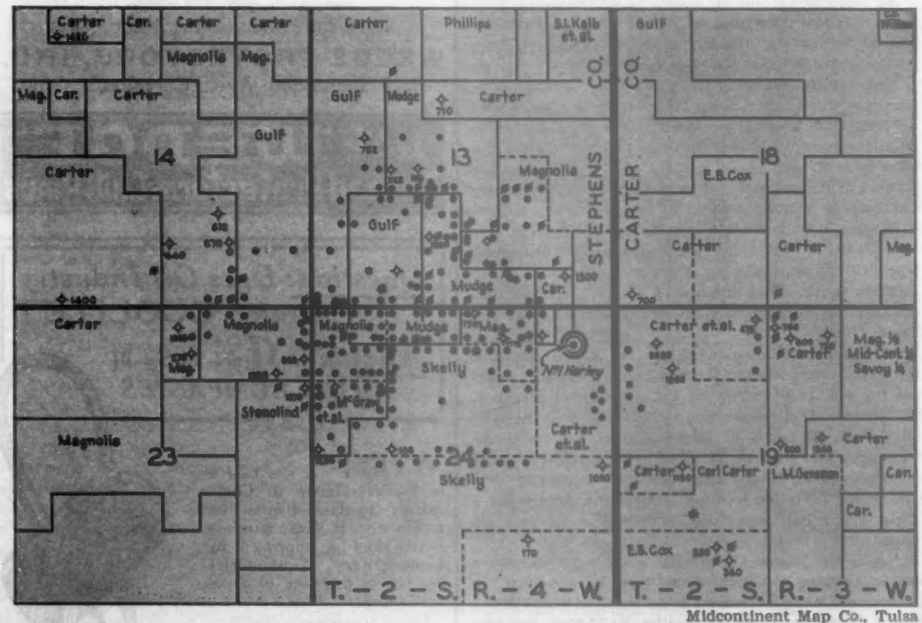
Simpson-Roodhouse Drilling Co.'s No. 1 Mack, C E½ E½ SW Section 33-2n-7, Fitts district, Pontotoc County, topped Gilcrease sand at 1,854 ft. and was dry and abandoned at 1,876 ft., total depth.

Carter Oil Co.'s No. 3 Craddock, SW SE NE Section 25-2n-6, an old well, was plugged back from 4,325 ft. to 2,580 ft., shot in Cromwell sand at 2,510-40 ft., and pumped 25 bbl. of oil in 24 hours.

Seminole County

T. C. Iglehart's No. 1 Talmsey, NW SW SW Section 3-6-5, in Seminole County, east of the St. Louis field, topped Earlsboro sand at 2,966 ft., had Woodford shale at 3,980-4,077 ft., total depth, was shot at 2,950-80 ft., without result, plugged back to 2,835 ft., had nothing showing and was abandoned.

New work in Seminole County: Sunray Oil Co.'s No. 2 Cully, NW NW NW Section 34-7-5, location; Cities Service Oil Co.'s No. 2 Fish B, NW NE SE Section 19-7-8, old well bottomed at 3,127 ft., rigging up rotary; Singer's No. 2 Cunsah, NW NW NE Section 36-8-7, old



Midcontinent Map Co., Tulsa

A new producing horizon in the Milroy field of Carter and Stephens counties was uncovered when Carter Oil Co.'s No. 1 Harley, Section 24-2s-4w, was plugged back and perforated in Hunton lime at 4,845-75 ft. Originally, it was drilled to 8,157 ft. in Simpson formation to give the old shallow field a deep pay. An offset on the Carter County side of the line was dry at 8,280 ft., however. Other producers in the field are from shallow sands

well being deepened from 3,089 ft., drilling below 3,146 ft.; Olsen's No. 1-A Burton, SE NW SW Section 28-9-6, twin, location; Cities Service Oil Co.'s No. 2 Wilson, SE NW NE Section 34-9-6, old well being deepened from 4,050 ft., topped second Wilcox sand at 4,127 ft., drilling below 4,235 ft.

Hughes County

Hugh Canavan's No. 1 Bowles, C S½ SW NE Section 5-8-10, North Yeager pool, Hughes County, topped Viola lime at 3,776 ft., found first Wilcox sand at 3,852-64 ft., second sand 3,894 ft., total depth 3,908 ft. Water intruded, and it was plugged back and casing ripped at 3,561-3,680 ft. After acidizing, it produced 7,500,000 cu. ft. of gas, with 1,400 lb. rock pressure.

Okfuskee County

R. Olsen's No. 1 Betts, NE SE NE Section 20-13-10, Okfuskee County, found Dutcher sand at 2,833 ft., set 7-in. casing there, was bottomed at 2,865 ft., and pumped 27 bbl. of oil in 24 hours.

McIntyre's No. 1-A McMahon, NE SW SE Section 36-11-9, was digging cellar.

Estimated Daily Production

Estimated daily production for Oklahoma for the week ended December 9, and for the preceding week, was as follows:

	Barrels	
	Dec. 9	Dec. 2
Allen	6,075	5,925
Billings	6,350	6,475
Burbank	6,950	7,375
South Burbank	8,775	9,350
Balance Osage	18,250	17,850
Blackwell district	3,650	3,625
Bristow-Slick	6,325	6,450
Chandler	1,450	1,575
Crescent	2,325	2,750
Cromwell	3,025	4,025
Cushing-Shamrock	9,675	9,500
Duncan	3,750	3,775
Edmond	4,250	4,400
Fish	3,725	4,175
Fitts	21,800	21,200
Jesse	2,025	2,325
Graham-Fox	2,875	2,925
Gray	775	825
Healdton	9,525	9,575
Hewitt	4,050	4,075
Keokuk	3,025	3,600
Konawa	1,050	1,325
Lucien	8,075	8,475
Moore	2,600	2,650
Oklahoma City	109,150	89,950
Olympic	2,675	2,750
Ramsey	4,950	4,975
Sasakwa	1,750	1,750
Sholem-Alechem	2,775	2,775
Seminole district:		
Bowlegs	6,825	7,150
Carr City	2,075	2,450
Dora	2,525	2,975
Earlsboro	4,075	4,225
South Earlsboro	500	575
East Earlsboro	2,175	2,700
Little River	5,850	6,275
East Little River	725	800
Maud	575	650
Mission	1,225	1,350
Seminole	6,750	6,900
East Seminole	1,125	1,275
Searight	1,850	2,275
Total Seminole	36,275	39,600
St. Louis-Pearson	29,250	29,800
Tatums	2,500	2,025
Tonkawa-Garber-Thomas	4,050	4,025
Wewoka	1,700	1,700
Yale-Jennings	3,500	3,525
Other pools	92,875	96,400
Total Oklahoma	431,825	423,500

Okmulgee County

E. C. Jordan's No. 1-A J. Jordan, NW NW NW Section 12-14-12, Okmulgee County, twin well, was dry and abandoned at 1,565 ft., total depth. O. C. Botts' No. 1-A Cullin, NW NW NW Section 7-14-13, Okmulgee County, was dry and abandoned at total depth of 2,100 ft.

Creek County

Swift Brothers' No. 2 Fields, CWL SW SE Section 7-18-10, Creek County, found Prue sand at 1,942-2,006 ft., was bottomed at 2,018 ft., shot and pumped 30 bbl. of oil and 15 bbl. of water daily.

Kessler's No. 2 Cartwright, C NE NE Section 29-18-9, had Dutcher sand at 2,842-73 ft., was shot there, and produced 10 bbl. of oil in 24 hours. Total depth was 2,902 ft.

Marion's No. 1 Keenan, SW SW NE Section 11-17-9, drilled Oswald lime at 1,678-1,926 ft., total depth 1,928 ft., was acidized and completed for 8 bbl. of oil daily.

Strozier Drilling Co.'s No. 8 Bierly, SW NE SW Section 12-16-11, produced 15 bbl. of oil daily and was completed at total depth of 1,775 ft.

W. M. Dunn and others' No. 4 Anthis, SE NE SE Section 34-14-10, Dunn pool, was a rig. Rufley's No. 2 McMilton, SE NW NW Section 26-18-7, had spudded

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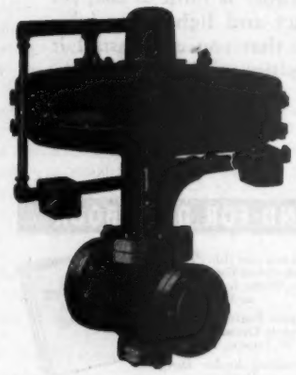

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Link Oil Co.'s No. 8 Haggard, SW NW NE Section 33-18-7, was drilling below 700 ft.

Shaffer and others' No. 1-A Davidson, NW SW NW Section 30-19-8, twin well, was bottomed at 2,607 ft. and had initial daily yield of 25 bbl. of oil.

M. B. Barham's No. 1 Cline, SW NE SE Section 1-18-12, Turkey Mountain area, Tulsa County, was completed for 5 bbl. of oil daily at 2,125 ft. Harry Pratt's No. 1 Sand Springs Home, NW SE SW Section 26-19-11, was dry and abandoned at 860 ft.

Suppes & Culbertson's No. 1 BreDahl, NE SE Section 28-19-12, Red Fork area, just outside city limits of Tulsa, found Big lime at 555-85 ft., total depth, was shot with 80 qt., acidized with 1,000 gal., and pumped 7 bbl. of oil daily.

In Wagoner County Sewell & Hanson's No. 2 Williams, CWL NE NE Section 22-17-16, was dry and abandoned at 843 ft., total depth.

In Okmulgee County Garrett's No. 4 Seaborn, CNL NE SE Section 17-11-12, an old well, was deepened from 2,672 ft. to sand at 2,730-37 ft., and recompleted for 500,000 cu. ft. of gas daily.

Lincoln County

Wilcox Oil & Gas Co.'s No. 1 School Land A, NE SE SW Section 16-14-6, Sac and Fox pool, Lincoln County, topped Prue sand at 3,028 ft., total depth 3,112 ft., was shot and flowed 139 bbl. of oil in 24 hours.

Payne County

Amerada Petroleum Corp.'s No. 4 Fruin, C E½ SE NW Section 12-17-1e, Coyle pool, Payne County, topped dolomite at 4,790 ft. and at 4,810 ft., had gas estimated at 8,000,000 cu. ft. Wilcox sand was found at 4,804-49 ft., and it flowed 127 bbl. of oil and 65 bbl. of fresh water in 24 hours. It was completed in Marshall zone at 4,849-50 ft., total depth.

Helmerich & Payne, Inc.'s No. 1 Berry, C E½ NE NE Section 14-17-1e, had Wilcox sand at 4,870-87 ft., set 7-in. casing at 4,812 ft., and flowed 220 bbl. of oil in 12 hours.

Texas Co.'s No. 2 Carr, C W½ NW NE Section 12-17-1e, had dug cellar and pits.

Osage County

Indian Territory Illuminating Oil Co.'s No. 465 Osage, NW SE SE Section 8-26-11, was completed for 1,200,000 cu. ft. of gas daily at total depth of 1,913 ft.

Bowers Oil Co.'s No. 6 Osage, NE NW SE Section 24-24-7e, was dry and abandoned at 760 ft.

Pawnee County

C. R. Fortner's No. 4 Pierce, NW SW SE Section 20-20-10, Pawnee County, had Red Fork sand at 1,835-67 ft., total depth 1,872 ft., and pumped 2 bbl. of oil daily.

Oklahoma County

Indian Territory Illuminating Oil Co.'s No. 4 Henning, NW SW SE Section 24-11-3w, Oklahoma City pool, Oklahoma County, found lower Hoover pay at 4,036-57 ft., total depth 4,060 ft., was shot at 4,048-56 ft., and pumped 64 bl. of oil in 24 hours.

Kerlyn Oil Co.'s No. 2 College, SE NW SW Section 21-13-2w, was a cellar.

In Logan County, Carter Oil Co.'s No. 2 Herron, C NE NE Section 28-17-4w, an old well in the Crescent field, was testing after plugging back to 5,135 ft. and ripping casing.

Garfield County

Champlin Refining Co.'s No. 2 Mackey, C S½ NE SE Section 4-24-8w, Hillsdale area, Garfield County, topped first Wilcox sand at 6,654 ft., had second sand at 6,702-20 ft., total depth, and was dry and abandoned.

Same company's No. 1 Mackey, NW NW SE Section 4-24-8w, an old well, was dry and abandoned after deepening from 6,703 ft. to 6,708 ft.

Caddo County

Phillips Petroleum Co.'s No. 2 Farwell, SE NW NW Section 35-6-10w, Cement field, Caddo County, had Noble-Olson sand at 3,208-28 ft., Niles zone 3,348 ft., pay 3,358-3,426 ft., total depth, and 8-in. pipe was set at 3,358 ft. It swabbed 168 bbl. of oil in 4 hours and made daily potential of 1,008 bbl.

Palmer's No. 2 Ulery, SW NE NE Section 34-6-10w, found sand at 3,485-3,515 ft., total depth, set 7-in. casing at 3,485 ft., made daily potential of 393 bbl. of oil by swabbing, and was completed, pumping 50 bbl. daily.

Johnson & Rollins' No. 1 Rasberry, SW NE SW Section 3-5-9w, Cement townsite, had Rowe sand at 3,428-

(Continued on Page 100)

Cedar Lake Outpost Showing Oil; Many Wells Completed

By D. H. STORMONT

MIDLAND, Tex., Dec. 11.—Prospects of two new oil wells for the recently opened Cedar Lake pool in Gaines County, one a 3½-mile northwest extension, together with the staking of three wildcat locations featured the week's development in the West Texas area. Forty-five oil wells were completed in West Texas in the past week.

Stanolind Oil & Gas Co., discoverer of the Cedar Lake pool of northeastern Gaines County several months ago, has both an offset and a 3½-mile extension in the testing stage. The outpost is Stanolind's No. 1 Thomas S. Riley, in Section 11, Block H, D.&W. Survey. It was bottomed at 4,864 ft. after finding porosity and saturation in cores from 4,765 ft. to the total depth. Offsetting the discovery well to the west, Stanolind's No. 1 American Warehouse, which had previously reported a gage of 60 bbl. of oil in 3 hours, late in the week reported a production of 355 bbl. of oil in 22½ hours, or a considerable decrease in the hourly rate of flow. As the week closed operators were preparing to shoot the latter test with 800 qt.

Two other tests are active in the area. South offset to the discovery, Stanolind Oil & Gas Co.'s No. 1 A. L. Green is running 7-in. casing to a total depth of 4,440 ft. in lime. The company's No. 1 Edith Johnson, diagonal southwest offset to the pool opener, has cemented surface casing at 255 ft.

New wildcats for the district include one in Mitchell County and two in Pecos County. First wildcat operation in many months in Mitchell County is Sinclair Prairie Oil Co.'s No. 1 Erwin, 330 ft. from the north and west lines of Section 1, Block 25, H.&T.C. Survey. It is in the northwestern part of the county and 6 miles northwest of the Westbrook pool, the first oil field opened in West Texas. It is contracted to 3,500 ft.

Pecos County's wildcats include Phillips Petroleum Co.'s No. 1 Sarah Byrne, in Section 114, Block 11, H.&G.N. Survey, and R. L. Baker's No. 1 White & Baker, in Section 86, Block 194, G.C.&S.F. Survey.

Ector County's closely watched wildcat, Landreth Production Corp. and Shell Oil Co., Inc.'s No. 1-A J. L. Johnson, in Section 43, Block 43, Township 1s, T.&P. Survey, between the northern end of the Foster pool and the southern ends of both the Goldsmith and North Cowden pools, has casing cemented on top of the lime. The well continues to check structurally high compared with failures in the area. It is considered a northwest outpost to the Johnson area which is attempting to link the Foster and North Cowden pools. North of the Johnson area and bringing the development to within 2½ miles of the southern end of the North Cowden pool, Sinclair Prairie Oil Co. has staked No. 1-B Dora Johnson, SW cor. NW¼ Section 39, Block 43, Township 1s, T.&P. Survey, just east and slightly north of Indian Territory Illuminating Oil Co.'s No. 1-B Johnson, completed for 796 bbl. daily. Both tests are about ¾ mile southeast of Sloan & Zook's No. 1 Johnson, wildcat producer in the area.

A ½-mile east outpost to the North Cowden pool has been staked by Arrow Drilling Co., its No. 1 Midland farms, SW cor. Section 100, W. L. Callahan Survey. It is on a long strip of acreage on which J. M. Rush and others of Dallas drilled an extension producer early in the year.

Three miles northwest of the Crockett pool in Crockett County, Zay Kimberlin's No. 1 Robbins, in Section 4, Block G, G.C.&S.F. Survey, indicated production when it made an estimated 2 bbl. of oil daily while drilling through a zone of saturation from 1,740 to 1,841 ft. The test has been shut down at 1,841 ft. for repairs and the operators have not announced whether the section will be tested, or the hole carried deeper.

Two wildcat tests staked at the close of the week included one each in Yoakum and Ector counties. The latter is contracted to the recently opened deep-pay horizon. In the extreme north central part of Ector County, Stanolind Oil & Gas Co. announced location for a 5,200-ft. wildcat on the W. F. Cowden land, 660 ft. from the south and 1,980 ft. from the west lines of Section 4, Block 43, Township 1n, T.&P. Survey. Scheduled to begin operations early this week, the wildcat will test both the regular North Cowden field pay level and the recently opened deep-lime pay section found by Gulf Oil Corp.'s No. 1 Holt in the northern end of the North Cowden field. Since the discovery by Gulf last winter, both Sinclair Prairie Oil Co. and Stanolind Oil & Gas Co. have completed deep producers, the latter's well being a 3½-mile south extension for the deep pay. The new location is 2½ miles west of the three deep producers.

Yoakum County's wildcat was announced by L. E. Hults, Fort Worth, and will be No. 1 N. W. Willard, 1,980 ft. from the east and 660 ft. from the north lines of Section 805, Block D, Gibson Survey. Location is a mile south of production in the Bennett area and east of production in the Denver area of the large Wasson-Bennett field.

WEST TEXAS FIELD COMPLETIONS

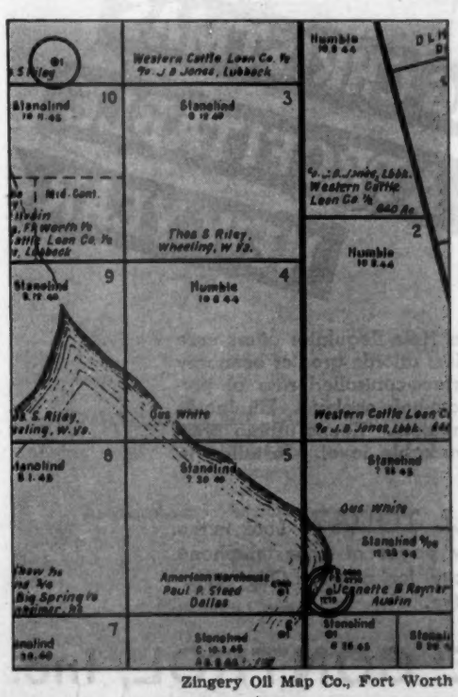
(24-hour gages)

Andrews County

In the Means pool Humble Oil & Refining Co.'s No. 71 J. S. Means, 4,500-26 ft., 1,866 bbl.

Ector County

In the North Cowden pool Aloco Oil Co.'s No. 4 Holt, 4,140-4,315 ft., 1,052 bbl. Sinclair Prairie Oil Co.'s No. 3 Fay Holt, 5,145-60 ft., 456 bbl. Stanolind Oil & Gas Co.'s No. 24 Roberts, 4,205-4,440 ft., 603 bbl. Tide Water and Edson's No. 4 Roberts, 4,254-4,462 ft., 605 bbl. In the Goldsmith pool Eastland Oil Co.'s No. 3 Cummins, 4,175-4,205 ft., 1,190 bbl. Gulf Oil Corp.'s No. 233 Goldsmith, 4,133-88 ft., 1,560 bbl. Gulf Oil Corp.'s No. 234 Goldsmith, 4,135-88 ft., 1,768 bbl. Gulf Oil Corp.'s No. 235 Goldsmith, 4,092-4,185 ft., 2,780 bbl. J. W. Herbert's No. 4 Cummins, 4,160-88 ft., 359 bbl.



Zingery Oil Map Co., Fort Worth

Cedar Lake pool of northeastern Gaines County, opened several months ago by Stanolind Oil & Gas Co., is receiving two new producers, one to extend the field 3½ miles to the north

In the Foster pool M. B. K. Drilling Co.'s No. 2-B J. M. Gist, 4,144-4,323 ft., 1,297 bbl. Shell Oil Co., Inc.'s No. 8-B Witcher, 4,050-4,277 ft., 1,130 bbl. B. F. Weekley's No. 1 J. L. Johnson, 4,053-4,172 ft., 1,106 bbl. In the Jordan pool Atlantic and Skelly's No. 7-C University, 3,320-3,650 ft., 1,357 bbl. Cosden Petroleum Corp.'s No. 3-C University, 3,480-3,672 ft., 1,120 bbl.

Gaines County

In the Seminole pool Amerada Petroleum Corp.'s No. 1-A T. S. Riley, 5,103-5,348 ft., 684 bbl. In the Wasson-Bennett pool Amon G. Carter's No. 4-E Wasson, 4,909-5,015 ft., 574 bbl. Magnolia and Atlantic's No. 2 H. & J., 5,110-5,247 ft., 871 bbl.

Hockley County

In the Slaughter pool Stanolind Oil & Gas Co.'s No. 4-B Alex Slaughter, 4,940-5,030 ft., 1,026 bbl.

Loving County

In the Mason pool Fred Hyer's No. 2 L. B. Russell, 4,215-75 ft., 358 bbl.

Pecos County

In the Lehn pool Claude Campbell's No. 2 Masterson-Lehn, 1,685-1,722 ft., 53 bbl. Sahara Oil Co.'s No. 3-A Sullivan, 1,666-1,710 ft., 132 bbl. A wildcat, Superior Oil Co.'s No. 1 V. W. Crockett-Continental, location temporarily abandoned.

Scurry County

In the Sharon pool Magnolia Petroleum Co.'s No. 3 McClure, 2,260-2,450 ft., 201 bbl. The Mudge Oil Co.'s No. 1 M. Dozier, 2,250-2,475 ft., 84 bbl.

Terrell County

A wildcat, Shirley, Lanham & Blakeney's No. 1 Packingham, abandoned at total depth of 314 ft.

Upton County

In the McCamey pool Texas Pacific Coal & Oil Co.'s No. 41-A Lane, 2,037-46 ft., 290 bbl.

Ward County

In the Estes pool Gulf Oil Corp.'s No. 117 O'Brien, 2,570-2,758 ft., 312 bbl. Gulf Oil Corp.'s No. 119 O'Brien, 2,745-2,875 ft., 61 bbl. In the Hutchins pool Gulf Oil Corp.'s No. 132 Hutchins, 2,569-2,743 ft., 2,806 bbl. In the Payton pool Ward-Pecos Petroleum Co.'s No. 3 Boogher, 2,025-84 ft., 8 bbl.

Winkler County

In the Keystone pool Gulf Oil Corp.'s No. 34 Keystone, 3,320-3,475 ft., 364 bbl.

Yoakum County

In the Wasson-Bennett pool, Aloco Oil Co.'s No. 4-B Miller, 5,000-5,167 ft., 1,091 bbl. Aloco Oil Co.'s No. 6 Smart, 4,990-5,145 ft., 839 bbl. Aloco Oil Co.'s No. 2 Carter Wilder, 4,950-5,175 ft., 1,091 bbl. Aloco Oil Co.'s No. 3-C Willard, 4,960-5,175 ft., 788 bbl. Argo Oil Co.'s No. 3-A Comer, 4,990-5,190 ft., 681 bbl. Eastland Oil Co.'s No. 1 Candler-Skelly, 4,935-5,230 ft., 601 bbl. (old well drilled deeper). Helmerich & Payne's No. 3 Dowell, 4,998-5,090 ft., 334 bbl. Humble Oil & Refining Co.'s No. 1 L. P. Bennett, 4,995-5,195 ft., 1,037 bbl.

Humble Oil & Refining Co.'s No. 1 J. T. Herd, 5,045-5,194 ft., 126 bbl. Humble Oil & Refining Co.'s No. 5 Randall, 4,995-5,095 ft., 516 bbl. Humble Oil & Refining Co.'s No. 1 E. P. Stanford, 4,930-5,192 ft., 513 bbl. Mid-Continent Petroleum Corp.'s No. 2 Comer, 4,980-5,174 ft., 1,240 bbl. Shell Oil Co., Inc.'s No. 3-B Baumgart, 4,830-5,190 ft., 839 bbl. Shell Oil Co., Inc.'s No. 3 Hensley, 5,000-5,278 ft., 640 bbl. Texas Pacific Coal & Oil Co.'s No. 3 Brownfield, 5,055-5,195 ft., 861 bbl.

PANHANDLE FIELD COMPLETIONS

(24-hour gages)

Gray County

S. C. Evans' No. 6 J. T. Benton, 3,212-96 ft., 463 bbl. King Oil Co.'s No. 5 Chris Baer B, 3,215-80 ft., 342 bbl. Magnolia Petroleum Co.'s No. 5 W. C. Archer, 3,272-98 ft., 90 bbl. Magnolia Petroleum Co.'s No. 13 E. Haggard, 3,229-95 ft., 220 bbl. Skelly Oil Co.'s No. 101 Schafer ranch, 3,290-3,356 ft., 312 bbl.

Hutchinson County

Alma Oil Co.'s No. 7 J. A. Whittenburg, 2,950-84 ft., 20 bbl. Concha Oil & Gas Co.'s No. 3 J. T. Hodges, 2,990-3,071 ft., 20 bbl. Cree & Hoover's No. 6 W. B. Haile, 2,980-3,055 ft., 824 bbl. Bob Murphy's No. 7 J. A. Whittenburg, 2,637-2,710 ft., 485 bbl. Phillips Petroleum Co.'s No. 1 Mapes-Lackey, 3,015-3,145 ft., 13,000,000 cu. ft. of gas.

Moore County

Phillips Petroleum Co.'s No. 1 Longmack, 2,900-3,200 ft., 16,604,000 cu. ft. of gas.

Wheeler County

Animsan's No. 4 J. H. Jackson, abandoned location.

WEST CENTRAL TEXAS

FORT WORTH, Tex., Dec. 11.—Discovery of two new small shallow-pay areas in Shackelford County, staking of new wildcats in Throckmorton, Coleman, Brown and Taylor counties, and a half-mile east extension to Jones County's 13-year-old Noodle Creek field, featured the developments of a busy and profitable week in the West Central Texas district.

Fourth pool in the Cook sand was opened on the large Cook ranch, 6 miles northwest of Albany in Shackelford County, by the discoverers of the now 300-well pool. Roeser & Pendleton, who hold leases on 20 sections of land in the center of the 14-year-old pool, brought in their No. 2-A Cook, C SW NW Section 113, E.T. Survey, 1 mile west of the west extension area, for a 40-bbl. pumper from the Cook sand drilled from 1,566-82 ft. Possibility of a new Ellenburger lime, Lower Ordovician, oil pool for southern Shackelford County was indicated in Long & Wolfe's No. 1 C. B. Snyder, Section 38, Lunatic Asylum Lands, 12 miles south of Albany. Drilled to the top of the Ellenburger lime by a California company more than a year ago, the test was taken over at that depth by the present operators who live in Graham, Tex. Some free oil was bailed from the hole after the test was deepened to 4,288 ft. and operators cemented casing for a test of the horizon. It was believed possible that commercial production could be developed. Nearest Ellenburger oil well is in the northwestern part of Eastland County.

Extending the Noodle Creek lime, main pay of the old Noodle Creek field of southwestern Jones County, ½ mile to the east, Butler & Horne Drilling Co. completed No. 1 J. C. Thompson for 10 bbl. per hour or at the rate of 240 bbl. daily. Saturation was drilled at 2,373-79 ft. It is in Section 48, Block 18, T.&P. Survey, on a Sinclair Prairie Oil Co. farmout. The strike is outside of production developed from the Swastika and Tannehill sands thereby opening the entire east side of the old field to production from the three horizons.

Jones County's closely watched wildcat, Danciger Oil & Refineries, Inc.'s No. 1 Davenport, Section 23, D.&D. Survey, 3 miles west of the Griffin pool and in the northeastern part of the county, has resumed drilling after being temporarily shut down at 3,039 ft. It is projected to the Palo Pinto lime at about 3,300 ft.

A 5,500-ft. wildcat is preparing for drilling in northern Throckmorton County. George Callihan, Abilene, Tex., operator and contractor, is moving in spudder for Normandie Oil Co.'s No. 1 Travis County School Lands, Section 37, Travis County School Lands Survey, Abstract 254. The contractor will use the same spudder which about a year ago set a record for the area by drilling to 6,011 ft. at Union Oil Co.'s No. 1 Pepper, 6 miles southwest of Sweetwater.

New location for the Burkett area of Coleman County is J. W. Quinn's No. 1 W. S. Duty, southeast part of Section 25, H.T.&B. Survey, 6 miles south of Burkett. On the east side of Coleman County's Novice pool, States Oil Corp.'s No. 1 A. D. Sewell has been staked 330 ft. north of the center of the south line of a 42-acre tract in the SW¼ Section 19, Block 2, T.&N.O. Survey.

In Brown County R. L. Shoemaker and associates of Durant, Okla., have moved rig to a wildcat location 7½ miles southeast of Brownwood. It will be their No. 1 S. M. Black, on the Williams ranch road. Production will be sought from both the Fry sand and the Ranger lime.

In Stephens County and indicating the second producer for the area recently opened by T. G. Shaw, trustee, of Fort Worth, the same operator's No. 2 Stroud, southwest offset to the discovery and in the southeastern part of the G. Newton Survey, cored saturated sand from 2,585 to 2,589 ft. Operations were halted at this point to cement 7-in. casing for a test. The discovery well was completed about 3 weeks ago.

WEST CENTRAL TEXAS COMPLETIONS

Callahan County

In the Bowles pool Gallagher & Lawson's No. 1 Thornton, dry and abandoned at total depth of 2,225 ft.

Coleman County

In the Novice pool State Oil Corp.'s No. 1 J. P. Morris flowed 256 bbl. in 9 hours from pay from 3,574 to 3,600 ft.

Jones County

In the Avoca pool Humble Oil & Refining Co.'s No. 4 R. B. Spencer, 69 bbl. hourly from pay drilled from 3,220-30 ft.

In the Noodle Creek pool Butler & Horne's No. 1 Thompson, 2,373-79 ft., flowed 281 bbl. daily.

Shackelford County

In the Ivy pool Wittmer and Owens-Snebold's No. 6 H. B. Haterius, 3,190-3,200 ft., 1,216 bbl. daily. Fortson & Polk's No. 2 J. E. McCown, 3,178-91 ft., 90 bbl. hourly.

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Southwest Texas District

By F. L. SINGLETON

Pool Opened in Starr County; Extensions and New Wildcats

CORPUS CHRISTI, Tex., Dec. 11.—The discovery of a pool 3 miles northwest of Rio Grande City, Starr County, testing of several interesting wildcats, and extensions to proven fields featured developments in the Southwest Texas district the past week.

Clopton & Mitchell opened a shallow producing area in Starr County with the completion of No. 1 F. M. Seabury, which is flowing an estimated 35 to 40 bbl. of oil per day through a ¼-in. choke, with tubing pressure 325 lb. The well was drilled to a total depth of 2,757 ft., and was completed through perforated casing at 1,328-33 ft. A drill-stem test of a deeper sand at 2,645-2,714 ft. showed gas and salt water. Location is in Lot 2, Share 30-D, Porcion 50.

Two deep tests in the old Bruni field, Webb County, and in the West Tuleta pool, Bee County, which had shown promise of opening production from the Teritary Wilcox formation, are plugging back to complete in shallower sands due to mechanical trouble. At Bruni Tide Water Associated Oil Co.'s No. 7 Bruni attempted to blow out again while the crew was preparing to plug back for a production test in the Queen City sand at 5,600 ft. This well blew out 2 weeks ago from the Wilcox sand at 8,959 ft. and ran wild for several hours before the hole bridged over, sticking the drill pipe 35 ft. off bottom. A pressure gage has been installed on the drill pipe, and the well built up 1,600 lb. working pressure in 3 hours. At the close of the week the company was trying to lower the gas pressure by bleeding off the gas through the drill pipe.

Anderson-Prichard Oil Corp. and Mills Bennet Production Co.'s No. 1 D. E. Robinson, West Tuleta field, Bee County, is preparing to test several showings in the Yegua formation after several attempts to cut out the drill pipe failed. The hole is bottomed at 7,921 ft., at which depth the well attempted to blow out, sticking the drill pipe. The pipe was cut out to a depth of 3,964 ft., and 8⅝-in. casing was cemented at that point for the production test.

In the same county, and approximately 10 miles southeast of Beeville, Coronado Corp.'s No. 1 C. E. Heard, Michel & Tool Survey, is shut down, waiting for orders, after two production tests recovered salt water. A 6-minute drill-stem test through perforated casing at 4,801-03 ft., developed 1,200 lb. working pressure and 27 ft. of salt water, while a previous test at 5,238-40 ft. recovered salt water and a small amount of working pressure. About 7 miles northwest of Pettus, Humble Oil & Refining Co. is moving in material for No. 1 W. T. Caswell.

Along the Frio-Vicksburg trend, in Jim Hogg County, Humble Oil & Refining Co.'s No. 2 Mestena Oil & Gas Co. continues to attract attention. The well attempted to blow out after an electrical survey was made at 6,045 ft., but was brought under control by pumping in heavy mud, and is coring ahead in sandy shale with an oil odor at 6,495 ft. Additional showings of oil and gas have been logged at 5,399-5,402 ft., 5,402-05 ft., and 5,710-19 ft. The well is in the Francisco grant, about 7 miles southeast of Hebronville. Location is reported to have been made by the same company for No. 3 Mestena Oil & Gas Co., about 4 miles east of Hebronville.

The second oil well in the Magnolia City field, Jim Wells County, was apparently assured as V. J. Meyer and V. F. Simon prepared to cement casing in No. 1 Reynolds & Richardson. Sand showing oil and gas was logged at 5,700-09 ft., total depth, and on a 15-minute drill-stem test at 5,692-5,709 ft., 720 ft. of pipe-line oil recovered, and working pressure built up to 135 lb. Gravity of the oil tested 49°. Previous attempts to extend production failed.

In the Ben Bolt field, Jim Wells County, Bridwell Oil Co.'s No. 3 Beasley logged saturation in a shallower sand at 4,496-4,508 ft., and on 12½-minute drill-stem test, 1,288 ft. of 38-gravity oil was recovered. The hole was drilled deeper, logging the discovery pay at 5,185-5,231 ft., the total depth, and 5½-in. casing was cemented on bottom.

In the same county location for a 6,500-ft. wildcat was made by H. H. Howell and others for No. 1 Clara Driscoll, 330 ft. from the south and west lines of a 445-acre tract in La Anima Sola grant.

In Victoria County Renward Oil Corp.'s No. 1 Stoner is expected to be abandoned after a drill-stem test through perforated casing at 4,261-80½ ft. recovered drilling mud with a slight oil cut, and several hundred feet of salt water. This well was drilled to 6,015 ft., and was scheduled to be abandoned, but an electrical survey showed possibilities in the 4,200-ft. horizon. Near the Victoria townsite W. Stewart Boyle's No. 1 G. C. Meyers is preparing to drill ahead from a total depth of 3,010 ft. An electrical survey showed gas sand at 2,928-54 ft., and salt water at 2,946-54 ft.

In Karnes County, southwest of the town of Green, Clyde Echols and others' No. 1 J. M. Newberry, Block 30, Carolos Martinez grant, cored sand and shale with an oil odor at 2,924-50 ft., and a drill-stem test was scheduled to be made.

The East White Point field, San Patricio County, was extended approximately 2,000 ft. west with the completion of Commercial Drilling Co.'s No. 3 Kate Dunn. With the hole bottomed at 5,621 ft., casing was perforated at 5,605-07 ft., and on a 24-hour potential test the well flowed 146 bbl. per day through a ⅛-in. choke. Tubing pressure was 950 lb. On the east edge of the field Plymouth Oil Co.'s No. 1 Koonce topped sand showing oil at 5,646 ft., and 7-in. casing was cemented on bottom at 5,660 ft.

Wellington Oil Co. and Pan American Production Co.'s No. 1-B Clara Driscoll, an east outpost well in the Clara Driscoll field, Nueces County, is swabbing through perforated casing at 5,290-5,302 ft., and the well is reported to be showing some oil. Previous testing through perforated casing at 7,775-78 ft., showed salt water. In the South Clara Driscoll field, and about 1 mile from production, Wellington Oil Co. and Seaboard Oil Co.'s No. 1 Martin has squeezed off perforations at 5,274-75 ft., and is preparing to retest.

In the North Luby field, Nueces County, Seaboard Oil Co.'s No. 1-C La Prelle was abandoned at a total depth of 7,025 ft. Drill-stem testing in both the 4,300-ft. and 5,000-ft. horizons recovered salt water.

Location for an interesting Edwards-lime test was made in Caldwell County by Frank D. Richardson, E. V. Abernathy, and C. J. Williamson for No. 1 Rector, 2½ miles east of the town of Lockhart. The well is located on what is thought to be the Luling-Lytton Springs fault, and a thorough test will be made of the chalk, Serpentine and Edwards-lime formations.

SOUTHWEST TEXAS COMPLETIONS IN PROVEN FIELDS

(24-hour gages)

Aransas-San Patricio Counties

McCampbell field: Southern Minerals Corp.'s No. 1-A Porterfield, perforated casing 7,130-36 ft., 97 bbl. 5/32-in. choke.

Calhoun County

Heyser field: Humble Oil & Refining Co.'s No. 22-B Welder, 5,594 ft., 164 bbl. 7/64-in. choke.

Duval County

Cedro Hill field: Texas Co.'s No. 34 Duval County Ranch Co., sand 1,457-62 ft., 108 bbl., ½-in. choke. Hoffman field: Duval Oil Corp.'s No. 4 Hoffman, sand 2,739-44 ft., 60 bbl., jetting. Magnolia Petroleum Co.'s No. 2 Well, sand 2,818-36 ft., 40 bbl., petting. Lundell field: Government Wells Oil Co.'s No. 39 Lundell, sand 1,529-38 ft., 82 bbl., ¼-in. choke. Piedra De Lumbre field: Magnolia Petroleum Co.'s No. 45 Duval County Ranch Co., sand 2,139-47 ft., 95 bbl., jetting. S. R. C. field: Texas Co.'s No. 31 Duval County Ranch Co., 1,076½ ft., dry and abandoned.

Jim Hogg-Brooks County

Kelsey field: Humble Oil & Refining Co.'s No. 36 McGill, 4,744 ft., 142 bbl., 9/64-in. choke.

Jim Wells County

Ben Bolt field: Bridwell Oil Co.'s No. 4-A Hoffman, perforated casing 5,216-22 ft., 325 bbl., 3/16-in. choke. H. H. Howell's No. 1 C. E. Stacy, perforated casing 5,221-41 ft., 334 bbl., 3/16-in. choke.

Milam County

Rockdale field: H. H. Coffield's No. 1 Scheihing, 1,382 ft., 1½ bbl., pumping. H. H. Coffield's No. 1 fee, sand 1,342-65 ft., 11 bbl., pumping.

Nueces County

Agua Dulce field: L. M. Lockhart's No. 3 Winfield, sand 4,828-38 ft., 25 bbl. distillate, ¼-in. choke. Union Producing Co.'s No. 2 Elliff perforated casing 5,079-90 ft., gas well. Union Producing Co.'s No. 3 Gee, perforated casing 4,745-60 ft., gas well. Union Producing Co.'s No. 3 Sponberg, perforated casing 6,792-6,810 ft., gas well. Luby field: Stanolind Oil & Gas Co.'s No. 18 McCann, perforated casing 5,171-74 ft., 103 bbl., ½-in. choke.

Refugio County

La Rosa field: Benson & Jones' No. 2-B Rooke, 6,338 ft., 140 bbl., ½-in. choke. Houston Oil Co.'s No. 1-A Rooke, perforated casing 5,730-36 ft., 200 bbl. fluid, 9 per cent salt water, 5/32-in. choke. Tomoconnor field: Quintana Petroleum Corp.'s No. 11 Heard, perforated casing 5,835-43 ft., 585 bbl., ¼-in. choke.

San Patricio County

Plymouth field: Plymouth Oil Co.'s No. 115-C Welder, perforated casing 5,635-44½ ft., 174 bbl., 5/32-in. choke.

Starr County

Los Olmos field: St. Marys Oil & Gas Co.'s No. 62 Kelsey-Bass, 414 ft., dry and abandoned.

Victoria County

McFaddin field: Barnsdall Oil Co.'s No. 35 McFaddin, sand 4,399-4,412 ft., 180 bbl., ¼-in. choke.

Webb County

Adami field: Bridwell Employees Oil Co.'s No. 1 Mable Adami, sand 984-87½ ft., 52 bbl., pumping. Volpe field: Magnolia Petroleum Co.'s No. 12 Volpe, 2,787 ft., dry and abandoned. West Cole field: V. G. Schimmel's No. 2-A Benavides, sand 2,324-50 ft., 81 bbl., pumping.

Zapata County

Mirando Valley field: Interstate Minerals, Inc.'s No. 13 Lopez, perforated casing 1,775-99 ft., 40 bbl., pumping.

Michigan Fields

(Continued from Page 88)

Fleischman of Detroit while C. L. Nadeau, formerly with Central Michigan refiners, is plant superintendent.

Another development is the $100,000 wet-gas absorption plant of Pent-Hex Corp. at Grand Rapids. A 20-mile line from the Walker-Tallmadge oil field has been completed and it is expected the plant will be complete in another month.

North and East Texas

By
D. H. STORMONT

1,000-bbl. Well Opens Pool in New Pay in Clay County

WICHITA FALLS, Tex., Dec. 11.—Estimates ranging from 1,000 to 1,500 bbl. daily as the production of Clay County's new pool discovery, together with a ½-mile east extension which indicates a new and the fourth pay level from Montague County's Benton & Holmes pool, were highlights in the developments of another busy week in the North Texas district. A deep wildcat was staked in Montague County, location was made for a ½-mile-west outpost to southeastern Archer County's recently opened Hemmi pool. Eastern Wichita County received a new wildcat test, and northwestern Denton County was given a new producing area.

Clay County's discovery, the fourth new deep pool in the past 9 months, remains ungaged and awaiting storage. It is Continental Oil Co.'s No. 1 O. O. Ross, W. Walker Survey, Abstract 703, 4 miles south of the town of Jolly and 5 miles northwest of the 4,700-ft. Halsell pool. Brought in last week end for an estimated 2,000-bbl. initial production, the well has been opened only a few times for short periods during the past week. Production is from the Smithwick lime at the top of the Bend series and saturation was drilled from 5,350 to 5,400 ft. The well was acidized last week with 8,000 gal. after which it flowed over the derrick for 30 minutes before being shut in. Present estimates on its potential production are from 1,000 to 1,500 bbl. per day.

New wildcat test for Clay County preparing to commence is Shell Oil Co., Inc.'s No. 1 Henderson, 6,000-ft. rotary test in the northwestern part of Section 1294, T.E.&L. Survey, 3 miles north of the Jack County line and in the extreme southwestern part of Clay County.

Montague County's Benton & Holmes pool, opened early this year, now has three pay zones, and is in line for a fourth. The new level is at 3,500 ft. The field has two 2,900-ft. producers, three 3,900-ft. producers and one 3,844-ft. producer and the new level is believed separate from all three. It was found by United Producers Co.'s No. 1 Rich, G. R. Jaquez Survey, about ½ mile east of the south end of the pool. Saturation was drilled in both the 3,500-ft. level and the deeper granite wash, however, the lower level did not prove commercially productive and the hole was plugged back. Casing was perforated with 120 shots from 3,451 to 3,495 ft. and it then filled 1,400 ft. with oil in 2½ hours. The crew was testing the well as the week closed.

A new wildcat for Montague County was announced by W. B. Omohundro as his No. 1 Wilmer Seay, C NW SW NW Section 32, Block 4, H.&T.C. Survey, 3½ miles south of Ringgold. Surrounding acreage is closely held, several of the companies are reported to have contributed toward the test. It will be a 6,000-ft. rotary test and will commence immediately.

A half-mile west of G. E. Kadane's No. 1 Hemmi, Lot 60, Block 3, Clark & Plumb Survey, which opened a new Caddo-lime pool for the eastern part of the county, the same operator has staked No. 1-B Hemmi, Lot 61. It is contracted to 4,000 ft. to test the Strawn sand which is above the productive horizon of the discovery well. The pool opener was completed for 200 bbl. daily from pay at 5,165 to 5,284 ft.

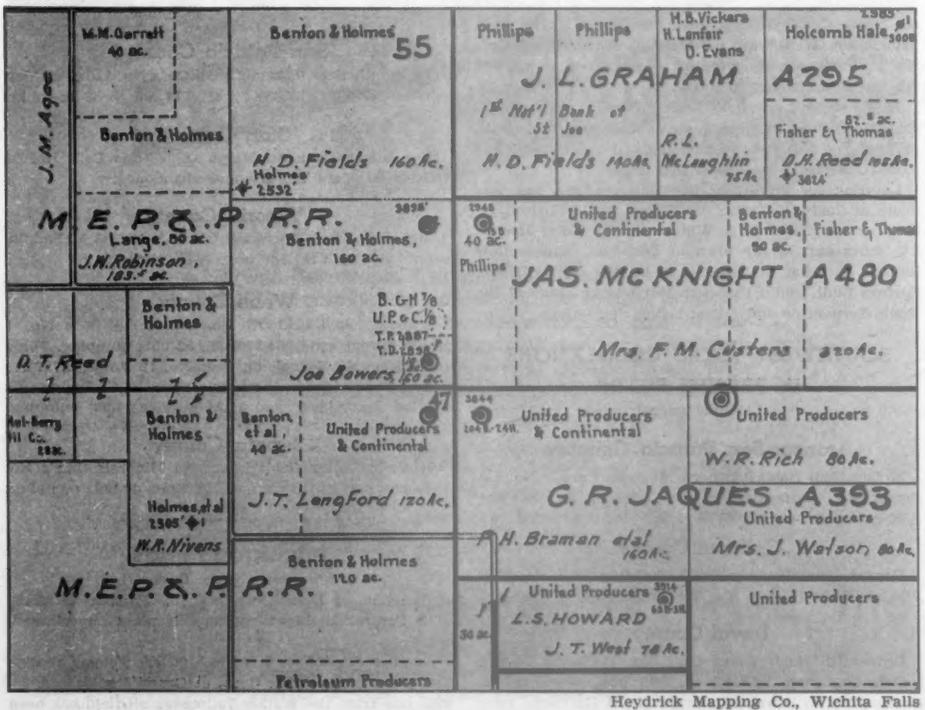
First major extension in northeastern Cooke County's Walnut Bend field was assured as the week closed at Magnolia Petroleum Co.'s No. 1 Ramsey estate, nearly ½ mile east of production in the field. The well found the Strawn pay from 4,816 to 4,862 ft., but it has not been definitely identified as the Best sand of the field proper. The well will be completed this week. It offsets to the north a lease held by Sun Oil Co. and completion of the well is expected to mark the entrance of that company into the field.

Denton County's Bolivar area, small gas and oil producing spot in the northwestern part of the county, was given a new producing area when Jones Drilling Co.'s No. 1 H. K. Armstrong, in the southeastern part of the L. Moore Survey, and a mile north of two wells in the field, was brought in to flow over the derrick. After the well cleaned itself it settled down to a flow of approximately 3 bbl. hourly. Production is from a sand drilled to 1,619½ ft. Operators have moved rig a location east for an offset.

A wildcat has been staked in the eastern part of Wichita County by Bert L. Ligon, one of the larger operators in the Hull-Silk pool of Archer County. The well will be No. 2 Collins, proposed 4,700-ft. rotary test located in the southwestern part of the J. Tylor Survey, Abstract 568, west of Wichita Falls.

Southeast Hardeman County was given a new 4,000-ft. wildcat when A. Paul Gilbert staked his No. 1 Robert Weekley, 330 ft. west and 660 ft. south of the SE cor. Section 87 but in Section 85, Block 16, H.&T.C. Survey. It is about 10 miles south of Chillicothe.

In the Hull-Silk field in northern Archer County the construction of a natural gasoline and pressure-maintenance plant is scheduled to commence soon after the first of the year. It is believed that due to the smaller number of operators in the Hull-Silk field than in the K.M.A. field of Wichita County, the project will meet with more favorable formation plans. In the K.M.A. field approximately 100 of the 131 operators are lending support to the pressure-maintenance project under way there. While flow schedules have not yet been sufficiently adopted to enable the plants to have sufficient gas over a 24-hour period, operators are continuing to hold meetings and are making substantial progress toward the completion of the program. Formation of an engineering association to work in cooperation with the companies supplying the high-pressure gas is nearing completion. Tentative plans are to assess the operators, the majority of which have agreed to support the organization, 0.2 cent per barrel of daily production.



Heydrick Mapping Co., Wichita Falls

Benton & Holmes pool of Montague County, already having three producing levels, is in line for a fourth as United Producers' No. 1 Rich, ½ mile east of production, continues to test

NORTH TEXAS COMPLETIONS

Archer County

Barnes & Traugh's No. 2-A Ray Carson, 1,287-96 ft., 150 bbl. Blackwell Oil & Gas Co.'s No. 3 Wilson-Christie, 4,339-61 ft., 1,896 bbl. Blackwell and Helmerich-Payne's No. 6 Wilson McCrory, 4,329-60 ft., 960 bbl. L. T. Burns' No. 1 J. Penartz, 4,657 ft., dry. Gray and others' No. 1 W. P. Ferguson, 4,078 ft., dry. E. P. Griffin's No. 4 Waggoner B, 1,639-45 ft., 80 bbl. W. B. Hamilton's No. 3 F. C. Green B, 1,137-48 ft., 78 bbl. Bert L. Ligon and others' No. 2 Little A, 4,326-80 ft., 720 bbl. Pace Petroleum Corp., Inc.'s No. 25 C. L. Abercrombie B, 986-1,002 ft., 15 bbl. Shell Oil Co., Inc.'s No. 3 E. Colgan, 1,461-71 ft., 86 bbl.

Clay County

R. R. Kolp's No. 4 Magnolia Petroleum Co., 285 ft., dry. W. H. Metzner's No. 2 Metzner & Taylor, 1,152-76 ft., 386 bbl.

Cooke County

Bridwell Oil Co.'s No. 11 J. R. Parkey, 680-95 ft., 5 bbl. Cox & Hamon's No. 6 New A, 4,950-91 ft., 448 bbl. Cox & Hamon's No. 8 New B, 5,195-5,320 ft., 1,008 bbl. Horwitz & Oldom's No. 10 R. W. Trew, 1,530 ft., dry. Horwitz & Oldom No. 11 R. W. Trew, 1,655 ft., dry. Fred Lausen's No. 1 C. J. Fette, 1,109-27 ft., 6 bbl. McDaniel & Beechrel's No. 6 Joseph Wiseman, 767-84 ft., 20 bbl.

Wichita County

Clark & Gilliland's No. 1 J. L. Jackson, 1,655 ft., dry. Consolidated Oil Co.'s No. 10 Mrs. Julia James, 3,942-4,002 ft., 1,338 bbl. Doss and others' No. 3 W. W. Overbey, 3,924-4,015 ft., 432 bbl. Dudley & Fisher's No. 2 J. A. Fisher, 1,450 ft., dry. Fisher & Dudley's No. 10 F. P. Warren, 1,346-68 ft., 168 bbl. Granite Oil Trust's No. 2, No. 6 N. H. Martin, 3,735-3,887 ft.,

1,200 bbl. W. H. Hammon's No. 16 S. H. McCarty B, 3,764-3,920 ft., 936 bbl. W. H. Hammon and others' No. 3 Sue Mitchell C, 3,800-89 ft., 1,200 bbl. J. G. Hammond, Inc.'s No. 2 J. C. Strauss B, 3,800-3,900 ft., 1,528 bbl. Iowa Payne Oil Co.'s No. 1 Fred Thom, 3,744-53 ft., 1,964 bbl. Dwight M. Ross and others' No. 26 Sue Mitchell, 849-57 ft., 8 bbl. R. Simons' No. 1 A. A. Honaker, 400 ft., dry. Sinclair Prairie Oil Co.'s No. 5 J. J. Perkins, 3,874 ft., dry.

Wilbarger County

Consolidated Oil Co.'s No. 5 W. T. Waggoner CC, 3,754-87 ft., 784 bbl. Pois & Schulz's No. 2 D. B. Flaniken, 1,879-1,902 ft., 325 bbl. J. A. Woods' No. 1 Mary L. Womack, 3,775-92 ft., 712 bbl.

Young County

Thomas A. Jirk's No. 3 W. M. Graham, 1,132 ft., dry. C. B. King's No. 9 C. W. Johnson, 635 ft., dry. Kriss and others' No. 1 S. R. Jeffery, 851-61 ft., 15 bbl. M. & W. Oil Co.'s No. 1 W. F. Keathley, 1,051 ft., dry. Sams & Watson's No. 8 F. M. Cullers, 549-602 ft., 10 bbl. Staley Oil Co.'s No. 1 W. J. Ragle, 1,077 ft., dry.

EASTERN TEXAS

DALLAS, Tex., Dec. 11.—One of the most active wildcat drilling campaigns in several years is under way in eastern Texas as both deep Trinity and regular Woodbine-sand activity increases weekly. Closely following the completion of a new Glen Rose distillate producer in Limestone County and the staking of a second deep test on the Chapel Hill structure of Smith County by Sun Oil Co., two new deep Trinity tests were reported in the past week. One is a new location in Kaufman County while the other is a deepening project in Camp County.

The district's Woodbine-sand development continues at a rapidly increasing pace as new wildcats were staked in Navarro, Van Zandt and Houston counties. Six East Texas field completions were reported during the week, a drop of four over the week previous; however, new locations in the field jumped from three to nine.

In Kaufman County and contracted to 6,800 ft. to test the Travis Peak formation, T. G. Shaw, Trustee, Fort Worth, has announced location for No. 1 Angus B. Wayne, 2,630 ft. from east and 2,028 ft. from south lines of the B. S. Newman Survey, Abstract 363, approximately 3 miles due west of Cedarville and 8 miles east of Kaufman. Located on a farmout from Superior Oil Co., the drilling contract has been let to John R. Bunn of Tyler and the materials are being moved in for immediate drilling. Considerable seismograph and other geophysical surveying has been done in the area over the past few years.

Camp County's Trinity test is an old temporarily abandoned dry hole at 5,710 ft. which will be deepened to 7,500 ft. It is Harry Moss' No. 1 Joe Venters, S. Wright Survey 3 miles southeast of Leesburg in the southwestern part of the county. The test will seek the Glen Rose. It was originally drilled by W. C. McGlothlin and work ceased more than a year ago.

Smith County's Chapel Hill district continued to hold attention as Shell Oil Co., Inc.'s No. 1 Campbell, 2 miles northeast of the discovery distillate producer in the area, reported a top of 6,557 ft. on the first anhydrite stringer. This places the wildcat 107 ft. lower structurally than the pool opener and substantiates the company's hopes of being far enough down the flank of the structure to find oil, if any is present in the structure. It is in the P. Lively Survey. Two miles south of the discovery well, Sun Oil Co. is rigging up No. 1 Huddle which will also seek flank-oil production.

In southern Houston County work has begun on a new 5,000-ft. wildcat north of the Kittrell pool, George C. Dixon's No. 1 B. R. Crowson, 1,500 ft. from the south and 200 ft. from the east lines of a 100-acre tract in the John Chears League, Abstract 242. It is about ½ mile north of a wildcat drilled by the Apex Oil Co. which found gas showings at approximately 2,300 ft.

EAST TEXAS FIELD COMPLETIONS

(1-hour gages)

Gregg County—Longview Area

Atlantic Refining Co.'s No. 18 T. W. Lee, 3,592-3,934 ft., 60 bbl.

Gregg County—Kilgore Area

Magnolia Petroleum Co.'s No. 11 R. H. Still, 3,634-34½ ft., 46 bbl.

Rusk County—Joiner Area

Hunt Oil Co.'s No. 23-D Bradford, 3,539-3,617 ft., 8 bbl. Hunt Oil Co.'s No. 27-D Bradford, 3,562-3,630 ft., 16 bbl. Hunt Oil Co.'s No. 28-D Bradford, 3,552-3,612 ft., 9 bbl.

Upshur County—Longview Area

S. J. Falensenthal's No. 1, 3,634-34½ ft., 40 bbl.

EAST CENTRAL TEXAS COMPLETIONS

(24-hour gages)

Anderson County

In the Cayuga field Carter-Gragg Oil Co.'s No. 3 W. H. C. Goode, Anderson County School Lands, 4,012-17 ft., 205 bbl.

Angelina County

In the Russell area K. L. McHenry's No. 2 Russell, A. Flores Survey, 1,002-04½ ft., 3 bbl.

Houston County

In the Navarro Crossing pool Humble Oil & Refining Co.'s No. 1 Mary Harper, 5,867-74 ft., 102 bbl.

Hunt County

A wildcat, Westmount Oil Co.'s No. 1 J. M. Clark W. H. Williams Survey, 1 mile northwest of Celeste, dry and abandoned at total depth of 5,314 ft.

Navarro County

A wildcat, J. H. Burk's No. 1 fee, Edmonson Survey, 1 mile north of Powell, dry and abandoned at total depth of 1,325 ft.

Gulf Coast Fields

(Continued from Page 78)

was brought under control, and hole is expected to be drilled deeper.

Distillate production in the North Elton field, Allen Parish, was extended approximately ½ mile west as Stanolind Oil & Gas Co.'s No. 1 Jenkins flowed an unestimated amount of gas and distillate when tested through perforated casing at 7,422-30 ft. Five and one-half inch casing was cemented on bottom at 7,489 ft.

Along the Tertiary Wilcox trend and located in Beauregard Parish, California Co.'s No. 2 Long Bell Lumber Co. is drilling ahead from a total depth of 10,055 ft., after cementing a protection string of 7-in. casing at 6,000 ft.

In the West Lake Verret field, St. Mary Parish, Shell Oil Co., Inc., was attempting to test a new sand in No. 4 Jeanerette. The hole is bottomed at 6,919 ft., and a drill-stem test at 6,911-19 ft., tested 600 lb. of working pressure. The discovery well was completed in a sand section at 8,017-20 ft.

Texas Co.'s No. 2 L. L. and E. Paradis completed the previous week as the first crude-oil producer in the Paradis field, St. Charles Parish, flowed 1,710 bbl. of 38.3-gravity oil per day through a ⅝-in. choke with tubing pressure 1,490 lb. The well was completed in a new sand at 10,295-10,340 ft. to extend the field approximately 1½ miles northwest.

TEXAS GULF COAST COMPLETIONS IN PROVEN FIELDS

(24-hour production)

Chambers County

Cedar Point field: Standard Oil Co. of Texas' No. 55-119 State, 6,250 ft., dry and abandoned.

Brazoria County

Hastings field: Stanolind Oil & Gas Co.'s No. 22-C Moore, perforated casing 6,042-78½ ft., 523 bbl., ¼-in. choke. Stanolind Oil & Gas Co.'s No. 17 Sneed, perforated casing 5,593-5,620 ft., 444 bbl., ¼-in. choke. Stanolind Oil & Gas Co.'s No. 9 McDonald, perforated casing 6,061-76 ft., 510 bbl., ¼-in. choke. Manvel field:

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Texas Co.'s No. 22-A W. T. Belcher, sand 5,359-80 ft., 543 bbl., ¼-in. choke.

Harris County

Clear Lake field: Humble Oil & Refining Co.'s No. 21-C Humble-West, 5,914 ft., 360 bbl., 3/16-in. choke. Humble Oil & Refining Co.'s No. 25-C Humble-West, 6,500 ft., dry and abandoned. Clinton field: Houston Oil Co.'s No. 1 Springer, 3,230 ft., gas well. Fairbanks field: Amerada-Stanolind Oil & Gas Co.'s No. 13 Foley, 6,846 ft., 125 bbl., ⅛-in. choke. Amerada-Stanolind Oil & Gas Co.'s No. 15 White, 7,016 ft., dry and abandoned. Friendswood field: Humble Oil & Refining Co.'s No. 18 West, sand 6,031-46 ft., 513 bbl., ¼-in. choke. Humble field: J. Deering's No. 1 Bender, sand 2,855-70 ft., 210 bbl., ¼-in. choke. Tomball field: Humble Oil & Refining Co.'s No. 3 Rudel, sand 5,559-67 ft., 498 bbl., ¼-in. choke.

Jackson County

Mauritz field: W. S. Boyle's No. 1-A Mauritz, 5,646 ft., 109 bbl., flowing and pumping. W. S. Boyle's No. 1 Smith, 6,010 ft., dry and abandoned. West Ranch field: Lonnie Glasscock's No. 9 Drummond, sand 5,590-5,609 ft., 683 bbl., ¼-in. choke. George Greer's No. 1 Ward, perforated casing 5,530-38 ft., and 5,444-60 ft., 561 bbl., ¼-in. choke. Magnolia Petroleum Co.'s No. 27-A West, perforated casing 5,520-23 ft., 297 bbl., ¼-in. choke. Magnolia Petroleum Co.'s No. 28-A West, sand 5,116-26 ft., 510 bbl., ¼-in. choke. Magnolia Petroleum Co.'s No. 31-A West sand 5,552-61 ft., 435 bbl., ¼-in. choke. Magnolia Petroleum Co.'s No. 32 West, sand 5,116-26 ft., 646 bbl., ¾-in. choke.

Jefferson County

Clam Lake field: Shell Oil Co., Inc.'s No. 7 McFaddin, 4,003 ft., 124 bbl., ⅛-in. choke.

Liberty County

Hull field: Republic Production Co.'s No. 166 Dolbear, sand 2,231-48 ft., 16 bbl., pumping. Esperson field: General Crude Oil Co.'s No. 9-B Esperson, perforated casing 7,655-70 ft., 723 bbl., ¼-in. choke.

Orange County

Orange field: McKay Donkin's No. 1 Loeffler, 5,972 ft., 143 bbl., ⅛-in. choke.

Polk County

Segno field: Humble Oil & Refining Co.'s No. 18 Kirby Petroleum Co., 8,145 ft., 456 bbl., ¼-in. choke.

Wharton County

Magnet field: Humble Oil & Refining Co.'s No. 20 Cockburn, 5,538 ft., 96 bbl., ⅛-in. choke. Withers field: Texas Co.'s No. 19 Broussard, 5,548 ft., 103 bbl., ⅛-in. choke. Texas Co.'s No. 43-B Pierce, sand 5,536-43 ft., 75 bbl., ⅛-in. choke.

Oklahoma Fields

(Continued from Page 94)

51 ft., total depth, perforated in Noble-Olson sand at 3,276-3,301 ft., and made swabbing potential of 569 bbl. of oil.

Phillips Petroleum Co.'s No. 1 Oakes, NE NE SE Section 34-6-10w, an old well bottomed at 3,716 ft., was cleaning out preparatory to deepening.

Jackson County

Gulf Oil Corp.'s No. 1 Fowler, SW NE SW Section 9-1n-20w, west of the Altus field, Jackson County, set 8-in. casing at 1,485 ft., total depth 1,748 ft., and pumped 7 bbl. of oil and 15 bbl. of water daily.

Same company's No. 1 Herbert, SE SE NE Section 9-1n-20w, was completed at total depth of 1,795 ft., pumping 10 bbl. of oil and 5 bbl. of water in 24 hours, and 6 bbl. of oil and 17 bbl. of water the next 24 hours.

Ted Harris' No. 1 Cooke, NW NW NE Section 2-1n-20w, was dry and abandoned at 1,753 ft., total depth.

Kerbow's No. 1 Walls, SW SW NW Section 11-1n-20w, was building rig. Burnham's No. 7 Sumner, SW SW NE Section 6-1s-19w, was rigging up rotary tools.

Tillman County

Indian Territory Illuminating Oil Co.'s No. 1 Peters, SW NW NW Section 6-3s-18w, was completed, extending the Canyon zone in the Frederick district, Tillman County, one-half mile eastward. It topped Canyon lime at 3,145 ft., had Arbuckle lime at 5,298-5,416 ft., total depth, plugged back and perforated at 3,140-43 ft., and pumped 309 bbl. of oil and 54 bbl. of water in 21 hours. It then pumped and flowed 227 bbl. of oil and 20 bbl. of water in 24 hours.

Same company's No. 1 Fillmore, SW SW SE Section 36-2s-19w, opened a new producing zone on the north side of the Frederick district. An old well, it was deepened from 5,141 ft. to 5,165 ft., and had initial 24-hour yield of 1,447 bbl. of oil, swabbing and flowing, cutting 3 per cent water. It later flowed 460 bbl. of oil in 20 hours, through casing. The day before deepening it pumped 75 bbl. of oil. Gravity of the oil was 33 degrees. Bottom-hole pressure was 2,492 lb. at 5,165 ft., with shut-in pressure of 426 lb.

Johnson's No. 1 Longacre, NE NE SE Section 6-4s-3w, had dug pits.

In Stephens County, Skelly Oil Co.'s No. 25 Glass, SE SW SE Section 33-1s-8w, an old well, was rigging up machine to deepen from 2,222 ft.

Carter-Marshall Counties

Jones Bros. and others' No. 7 Dillard, NW SW NE Section 22-4s-2w, an old well in the Hewitt field, Carter County, was deepened from 2,170 ft. to 3,714 ft., swabbed 118 bbl. of oil in 16 hours and pumped 45 bbl. daily.

Shell Oil Co.'s No. 43 Tubbee, NE SW NW Section 24-4s-3w, Healdton field, was completed at 1,449 ft., producing 242,000 cu. ft. of gas daily.

In Marshall County H. C. McGlothlin's No. 2 Lettie, SW SW NW Section 30-7s-6, Isom Springs area, was abandoned at 385 ft., total depth.

Daube's No. 1 Love, SW NW NW Section 33-1s-3w, Carter County, had rig on ground. Johnson's No. 23 Davis, SE NE SW Section 6-4s-3w, was bottomed at 230 ft. and running casing. Sinclair Prairie Oil Co.'s No. 14 Richards, C SE NW Section 9-4s-3w, an old well, was rigging up machine to deepen from 1,065 ft. Same company's No. 35 Ardsworth, SE NW NW Section 10-4s-3w, was rigging up machine.

Comanche County

Elmer Carter completed a 6-bbl. well at No. 1 Johnson, NE NE SE SW Section 26-2n-11w, Lawton area, Comanche County, at total depth of 228 ft. E. P. Evans' No. 2 Maloney, NW SE SE SE Section 23-2n-11w, was abandoned at 145 ft. Kelly's No. 2 School Land, NW NW NE Section 35-2n-11w, was dry and abandoned at 260 ft., total depth.

Forest City Basin

(Continued from Page 91)

pipe at about 1,430 ft. A few wildcats are drilling at shallow depths in Platte, Jackson and Clay counties.

The Kansas hot spot of the Forest City basin is in Jefferson County. E. W. Mosbacher and others' No. 1 McLaughlin, SW NE NW Section 4-10-20e, Jefferson County, was thought to be drilling below 1,750 ft., but operators were withholding information. Gas gaging about 8,000,000 cu. ft., found at 1,455 ft. in Bartlesville sand, was shut off. Operators were reported to have refused an offer of 8 cents per 1,000 ft. for the gas.

Carter Oil Co. has completed its slim-hole rotary test in Section 24-4-16, near Horton, Brown County, Kansas. Results were not announced. Phillips Petroleum Co. has moved its seismograph crew from Horton to western Kansas.

Most interesting news from Iowa was a statement by the state Insurance Department, under which the Securities Department operates. It held that no oil and gas leases or royalties on Iowa land could be sold in Iowa until existence of oil in the state was proven. It also held that oil and gas leases would be regarded as securities, that leases from another state would have to be registered in Iowa and that salesmen and dealers must register. Fees accompany all registrations.

La.-Ark. Fields

(Continued from Page 85)

SE cor., SE NE Section 22-19-7, dry and abandoned at 920 ft.

Magnolia—Columbia County

Standard Oil Co. of Louisiana's No. 1-B Lewis, 660 ft. N, 560 ft. E of SW cor. SW NE Section 19-17-19, 840 bbl., 19/64-in. choke, casing pressure 1,220 lb., tubing pressure 1,220 lb., total depth 7,627 ft.

Wildcat—Columbia County

Standard Oil Co. of Louisiana's No. 1 R. S. Warnock, C NW NW Section 36-16-20, top of porous Smackover lime at 7,692 ft., salt water, total depth 7,747 ft. abandoned.

Wildcat—Independence County

C. P. Daniels' No. 1 Kelly Wyatt, 1,085 ft. S, 50 ft. E of NW cor, SE¼ Section 16-12-5w, 250,000 cu. ft. of gas and a spray of salt water, total depth 603 ft.

Urbana—Union County

Delta Drilling Co.'s No. 1 Bull, C SE SW NW Section 6-18-13, pumped 38 bbl. of 16-gravity oil and 410 bbl. of salt water, perforated at 2,583-86 ft., total depth 2,730 ft. Edgar Johnston's No. 1 Axums, 330 ft. N, 250 ft. E of SW cor. SE SW Section 31-17-23, dry and abandoned, total depth 2,990 ft.

Production by Pool

Estimated daily gross production of all companies for week ended December 9:

NORTH LOUISIANA

	Barrels
Bellevue	480
Caddo light	5,200
Caddo heavy	2,425
Converse	500
Cotton Valley	*13,150
Cross Lake	5,585
De Soto and Red River	1,065
Elm Grove	295
Haynesville	2,730
Holly	85
Homer	2,740
Lisbon	5,330
Pleasant Hill	90
Rodessa	22,985
Sarepta-Carterville	†300
Sligo	1,305
Sugar Creek	260
Urania	2,550
Zwolle	2,375
Total	69,450

SOUTH ARKANSAS

Atlanta	445
Buckner	2,345
Champagnolle	1,330
Dorcheat	375
El Dorado	1,590
Lewisville	675
Lisbon	235
Magnolia	19,410
Miller County	300
Nevada	550
Rodessa	3,085
Schuler	18,045
Smackover light	7,890
Smackover heavy	14,580
Stephens	535
Troy	1,250
Urbana	945
Village	1,325
Total	68,910

*2,745 bbl. is distillate. †105 bbl. is distillate. Texas side of Rodessa, 26,150 bbl.

Eastern Fields

(Continued from Page 84)

about 400,000 cu. ft. of gas at 1,679-88 ft. In DeKalb district A. E. Ellis drilled the second test on the C. C. Pickens farm to 1,677 ft.; Big Injun at 1,570-1,640 ft., and it was dry and abandoned.

In Kanawha County Spartan Gas Co. completed a gas well on the Sarah Reese farm in Poca district at 2,185 ft., with Berea sand at 2,177-83 ft., and a gage of 492,000 cu. ft. a day.

In Lincoln County Bradyville Gas Co. completed No. 2 Sweetland Land & Mining Co. in Laurel Hill district at 3,087 ft., with Brown shale at 2,125-3,087 ft. It gages 270,000 cu. ft. a day.

In Pleasants County Glen F. McBurney and others completed a gas well on the First National Bank of St. Marys lease in Jefferson district at 1,976 ft. and it is gaging 80,000 cu. ft. a day.

In Ritchie County Carnegie Natural Gas Co. deepened No. 1 Tate in Union district to 2,117 ft., Injun sand, and it is showing 336,000 cu. ft. a day along with 4 bbl. of oil. In Clay district Mole Hill & Oil Gas Co. drilled No. 2 W. H. and D. M. Bradford through the second Cow Run sand to 1,175 ft. It was dry. In Grant district Bickle Oil Co. drilled No. 10 Hall and Tetrick to 1,689 ft., Maxton sand, and it was dry and will be used for repressuring.

In Upshur County Cumberland & Allegheny Gas Co. completed a gas well on the H. M. Long farm in Meade district at 4,505 ft., with Benson sand at 4,171-86 ft. and a gage of 380,000 cu. ft. a day at 4,180 ft.

In Wayne County Southern West Virginia Gas Co. deepened No. 3 M. C. Mills in Stonewall district beginning at 1,392 ft. with Brown shale at 2,450-3,090 ft.; Corniferous lime, 3,090 ft.; and a gage of 92,000 cu. ft. a day 12 hours after shot.

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ont., Dec. 9.—Crude and naphtha production from all Alberta fields in October totaled 796,147 bbl. compared with 701,209 bbl. in September. This brought production for the 10 months of 1939 to a total of 6,396,614 bbl., valued at approximately $8,000,000; compared with 5,841,555 bbl. in the same period of 1938 and 2,067,978 bbl. in the 1937 period.

Turner Valley limestone production was 760,597 bbl. for the month. Production from gas wells included 5,610 bbl. from separators and 26,420 bbl. from absorption plants.

Turner Valley Producers

Among Turner Valley limestone wells, Home Oil Co.'s No. 2 Millarville, in North Turner Valley, led the field, with 25,284 bbl. in October. Other major producers were Extension Royalties' No. 2, 23,627 bbl.; Anglo-Canadian Oil Co.'s No. 6, 20,358 bbl.; Vulcan-Brown Petroleums' No. 1, 18,894 bbl.; Royal Canadian Oil Co.'s No. 2, 17,082 bbl.; Royalite Oil Co.'s No. 36, 16,640 bbl.; Extension's No. 1, 16,234 bbl., and Northwest-Hudson's Bay's No. 1, 16,149 bbl.

Anglo-Canadian Oil Co. and its affiliates with 19 wells aggregated 170,605 bbl. for October; Brown Oil Corp. and affiliates, with 13 wells, made 82,266 bbl.; and the Royalite Oil Co., with the Northwest-Hudson's Bay and Sterling Pacific wells, 19 in all, made 167,690 bbl. Wells outside these three major groups numbered 40, with 340,036 bbl.

Allowables Are Reduced

Effective December 1, allowables of Turner Valley limestone crude producers were reduced from 20,000 to 14,000 bbl. With demand falling off after completion of the harvest, crude in storage has been steadily increasing during November.

Tests in the Lime

In Section 25-19-3w5, West Central Turner Valley, Argus Royalties' No. 1, LSD 14, finished in the lime at 7,384 ft., was given acid treatment of 3,500 gal. Early indications were unfavorable, but after experimenting for several weeks, production has reached as high as 275 bbl. in 24 hours, though the flow is not steady. Experiments with its own gas have been unsatisfactory, and probably gas lift will be used.

In Section 29-18-2w5, the water intrusion in Royal Canadian Oil Co.'s No. 3, LSD 12, appears to be very small. The well finished at 8,656 ft. without drilling to the lower porous horizon of the Madison and was in production part of October, making 11,480 bbl. and part of November, before any water appeared. This is the first appearance of the oil-water table on the southern edge of the field, but there appears to be no immediate danger of serious water encroachment, the advance of water in the structure due to natural depletion of oil, and gas pressure being estimated less than 300 ft. along the flanks, which would not bring the water level near the producing horizon of most of the crude wells.

In Section 6-19-2w5, West Central Turner Valley, East Crest Oil Co.'s No. 4, finished at 8,040 ft., is experimenting with production methods, and has somewhat increased its potential yield.

In Section 16-18-2w5, Okalta Oil Co.'s No. 7, LSD 3, finished at 7,425 ft. after getting the Madison at 6,970 ft., has been given four successive acid treatments aggregating 5,000 bbl. It made over 24 bbl. an hour from the lower lime, indicating a flush of 575 bbl. a day. When the lower lime is thoroughly tested, casing will be perforated for acidizing and testing the upper lime.

In Section 8-18-2w5, Northwest-Hudson's Bay Co.'s No. 2, LSD 9, is below 7,556 ft. after getting the Madison at 7,150 ft. and nearing completion.

In Section 22-20-3w5, North Turner Valley, Royalite Oil Co.'s No. 43, LSD 2, is below 8,760 ft., more than 469 ft. in the Madison limestone. Drilling has been difficult, owing to the rather steep pitch of the formation, and it is possible the test will not be taken below the first producing horizon, which is expected around 8,800 ft. It is estimated that the water line in Turner Valley is around 4,000 ft. below sea level, which would be considerably lower than 8,800 ft. drilling depth. The present drilling depth in the lime is approximately the same as that required to reach the lower producing horizon in the South Turner Valley crude wells.

West Central Field

In Section 18-19-2w5, West Central Turner Valley, Davies Petroleums' No. 5 (formerly Davolite Oil Co.'s No. 1), LSD 10, has resumed from 1,830 ft. where casing was cemented before the test shut down earlier in the year. Newell & Chandler have the drilling contract, using the Davies Petroleums rotary equipment. Completion is expected in March. The well is testing a new area west of the old gas-naphtha producers, and in line with the west flank crude wells. In Section 13-19-3w5, Arrow's No. 1, LSD 16, is below 4,314 ft. In Section 8-19-2w5, South West Petroleum Co.'s No. 3, LSD 3, is in the upper Benton formation below 3,480 ft. In Section 7-19-2w5, Pacific Petroleums' No. 5, LSD 6, is rigging. In Section 6-19-2w5, East Crest Oil Co.'s No. 5, LSD 9, is in the Benton formation below 3,572 ft. Kamalta Oils' No. 1, LSD 1, is below 1,475 ft. In Section 5-19-2w5, Vanpeg Royalties' No. 1, LSD 9, is in the Blairmore formation below 4,684 ft. Royalite Oil Co.'s No. 45, LSD 14, is in the Blairmore formation below 6,788 ft.

West Side Drilling

In Section 32-18-2w5, Pacific Petroleums' No. 4, LSD 3, is spudding. Royal Canadian Oil Co.'s No. 4 (formerly

(Continued on Next Page)

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California Fields

(Continued from Page 77)

in additional drilling. Nos. 3 and 4 of Lloyd Corp. at 9,980 ft. and 10,002 ft. respectively, are at present being prepared for production tests, and both should result in favorable completions. The Lloyd Corp., headed by Ralph Lloyd, largest landowner in the Ventura Avenue field, has a derrick standing for No. 5, but this well will not be spudded until one of the two drilling wells is completed.

Rincon

In the Rincon field, at the extreme western end of the major Ventura Avenue anticline, Chansior Canfield Midway Oil Co. completed No. 28-B Hobson in Section 16-3-24, flowing 303 bbl. of 28.9-gravity oil and 290,000 cu. ft. of gas per day and No. 2-B Hobson in Section 8-3-24, flowing 670 bbl. of 28.6-gravity oil and 295,000 cu. ft. of gas daily. The latter well, No. 2-B Hobson, is a redrill job, the hole being plugged back from 4,046 ft. to 2,400 ft. and then carried down to 4,060 ft., and then plugged back to 3,815 ft. from which depth the well is now producing. No. 2-B flowed through a 35/64-in. bean and No. 28-B through a 32/64-in. bean. Production of both wells shows a cut of 5 per cent, which was not unexpected, due to the age and condition of the sand in this old field.

Kettleman North Dome

The Kettleman North Dome field has more active drilling wells than at any time for several years. The number of new locations staked and new rigs up indicate that the large scope of drilling will probably continue. There are 20 strings of tools in operation, of which Standard Oil Co. has 14, Kenda has 5, and Suprior Oil Co. is deepening a well from the Temblor to the Eocene. During the current week, Kenda completed No. 56-22-Q in Section 22-22-18, flowing 4,375 bbl. of clean 36.3-gravity oil and 4,077,000 cu. ft. of gas per day from the Temblor with bottom of the hole at 7,810 ft. This new well, which logged top of the brown shale at 5,560 ft. and top of the Temblor at 6,903 ft., was finished with an 8⅝-in. water string cemented at 7,044 ft. and 787 ft. of 6⅝-in. liner landed at 7,801 ft., cemented through perforations at 7,680 ft. and containing perforations opposite the productive formation at 7,680-7,801 ft. The hole was finished with 6,004 ft. of 3-in. tubing and the well was brought in flowing through open line. Production was reduced as soon as the well got under way. Contrary to early opinions regarding the productivity of the eastern end of the Kettleman North Dome field, that area has been yielding some excellent flowing wells. Early work by General Petroleum Corp. indicated the possibility that the east end of the structure would be found too tight to flow at a high rate, but subsequent work has indicated that this was purely a local condition. Due to this important development, engineers are now reluctant to reduce the present future expectancy of around 600,000,000 bbl. until additional data are available.

Cole's Levee—Tupman

The passage of each week tends to confirm the general belief that the Cole's Levee and Tupman fields of Kern County are one large field. If these two districts are one large field the productive area may total more than 7,000 acres. If this is so, engineers will be obliged to revise previous estimates of the area's future possibilities. On the basis of only 35,000-bbl. per acre, these 7,000 potentially productive acres should yield a minimum of 245,000,000 bbl. of crude oil. It is still too early to make a prediction as to existing structural conditions, and for the present, many are treating the two areas as separate fields. Ohio Oil Co. completed No. 5-F Kern County Land in Section 10-31-25, flowing 490 bbl. of clean 58.7-gravity oil and 3,800,000 cu. ft. of gas per day from the Stevens zone with bottom of the hole at 9,271 ft. It was brought in flowing through a 15/64-in. bean, and shows a tubing pressure of 2,000 lb. and a casing pressure of 3,000 lb. The hole was finished with a 7-in. water string cemented at 8,790 ft. and 514 ft. of drillable liner landed at 9,264 ft., and carrying perforations of 100-mesh at 8,790-9,264 ft. and 9,259 ft. of 2¼-in. tubing. Top of the main body of Stevens oil sand was cored at 8,805 ft. No. 41-32-A Kern County land, and No. 76-4 B Kern County Land of Richfield Oil Corp., and No. 20-3 Kern County Land of Standard Oil Co. are in the pay.

Coalinga

Amerada Petroleum Corp. completed another good flowing well in the Northeast Coalinga field of Fresno County this week when No. 3-17-B Southern Pacific land in Section 17-19-16, was brought in flowing 1,245 bbl. of 28.3-gravity oil and 250,000 cu. ft. of gas per day through a 17/64-in. bean behind a tubing pressure of 1,250 lb. and a casing pressure of 1,400 lb. It topped the Kreyenhagen at 7,115 ft. and top of the glauconitic at 8,102 ft. and top of the Gatchell zone at 8,154 ft. and was completed at 8,206 ft. The hole was finished with a 7-in. water string cemented at 8,153 ft. and 70 ft. of drillable liner landed on bottom and perforated with 100-mesh at 8,156-8,206 ft. Universal Consolidated Oil Co. appears to be just on top of the Gatchell zone in No. 81-24-C in Section 24-20-15. This well is north of an abandoned outpost and was drilled on the assumption that the Gatchell zone would thicken toward the center of the structure and thus give the well enough oil sand to produce.

Greeley

Standard Oil Co. completed another new well in the Rio Bravo sand in the Greeley field of Kern County. The Stevens zone, due to lenticular conditions, has failed to come up to expectations, and is in no way comparable with the prolific Stevens zone in the Ten Section, Cole's Levee, and Tupman fields, but the Rio Bravo zone in the Greeley field appears to be more uniform. Standard's new well was No. 1 Ross, in Section 20-29-26, and it came in flowing 640 bbl. of clean 38.2-gravity oil and 2,000,000 cu. ft of gas daily from a depth of 11,575 ft. The hole was finished with a 6⅝-in. water string cemented at 11,518 ft.

Wilmington

In the Wilmington field of Los Angeles Basin General Petroleum Corp.'s No. 101 Pacific Electric, was brought in flowing 154 bbl. of clean 15.9-gravity oil per day through a 32/64-in. bean from the Ranger zone with bottom of the hole at 3,380 ft.

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Canadian Fields

(Continued from Preceding Page)

Vantage's No. 1), LSD 12, is below 1,710 ft. In Section 31-18-2w5, Anglo-Canadian Oil Co.'s No. 7, LSD 9, is in the Blairmore formation below 6,952 ft. In Section 29-2w5, Commoil's No. 3, LSD 13, has foundations completed and is waiting for derrick and outfit from Command's No. 2, LSD 11, same section, which is in the lower Blairmore below 7,420 ft. and getting close to the Madison. In Section 20-18-2w5, York Oils' So. 3, LSD 3, is in the Belly River formation below 1,920 ft. In Section 17-18-2w5, Extension Royalties' No. 3, LSD 13, spudded about the middle of November, has shut down at 558 ft., in view of the water intrusion in Royal Canadian Oil Co.'s No. 3. Location is on the west fringe of the field, and the situation will be studied before drilling deeper. Royalite's No. 46, LSD 2, same section, is in the Blairmore formation below 7,336 ft. after getting the Home sand at 7,010 ft.

North Turner Valley

In Section 15-20-2w5, North Turner Valley, Anglo-Phillips' No. 1, LSD 14, is in the Benton formation below 3,141 ft. In Section 28-20-3w5, Home Oil Co.'s No. 4, LSD 9, is in the lower Blairmore formation below 7,538 ft. Home's No. 3, LSD 1, Section 33-20-3w5, is below 6,799 ft. In Section 34-20-3w5, Alberta Oil Incomes' No. 1, LSD 4, is in the lower Benton formation below 2,137 ft. after getting the cardium market at 1,240 ft. In Section 27-20-3w5, Foothills Oil & Gas Co.'s No. 6, LSD 5, is working on derrick.

Tests in the Foothills

On the Brazeau structure in the northern foothills west of Edmonton, Home Oil Co.'s No. 1, LSD 16, Section 7-43-17w5 has foundations completed for rotary outfit, to resume from 6,665 ft.

On the Clearwater structure, Altoba's No. 1, Section 31-34-9w5, is standing in the Devonian lime at 3,060 ft. after encountering good shows of gas and oil. A second test will likely be drilled.

On the Grease Creek structure west of Olds, Grease Creek-Northwest Co.'s No. 1, LSD 2, Section 13-29-7w5, is below 5,735 ft. and getting close to the Home sand.

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WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S.T.R.	Depth	Status—
Union Oil, No. 73 Callender, Dominguez, Los Ange.	32- 3-13	6,705	sd. sh. drlg.
Union Oil, No. 74 Callender, Dominguez, Los Ange.	29- 3-13	7,637	P.B. 7,116
Shell Oil, No. 100 Reyes, Dominguez, Los Angeles	13- 3-13	7,287	sd. sh. drlg.
Havenstrite, R. E., No. 1 Larronde, Doming., L. A.	32- 3-13	7,160	O.S. drlg.
Barnsdall Oil, No. 1 Santa Fe, Rosecrans, Los Ang.	20- 3-13	8,096	sd. sh. drlg.
Averill, George, No. 3 South, Rosecrans, Los Ange.	20- 3-13	8,405	cleaning out
Kelly & Sons, No. 1 McMillen, Rosecrans, Los Ang.	20- 3-13	3,783	sd. sh. drlg.
Univ. Consd. Oil, No. 18 Trust, Rosecrans, Los An.	18- 3-13	7,850	sd. sh. drlg.
Basin Oil, No. 6 Potrero, Potrero, Los Angeles	34- 2-14	1,451	sd. sh. drlg.
Casa Grande Oil, No. 1 Lopez, San Fernando, L. A.	1- 2-15	2,220	swab wtr.
Tide Water A. O., No. 3 Porter, Aliso Canyon, L. A.	27- 3-16	1,340	sd. sh. drlg.
Tide Water A. O., No. 12 Porter, Aliso Canyon, L. A.	27- 3-16	6,220	hd. sd. drlg.
Tamas Oil, No. 1 Perkins, Newhall, Los Angeles	14- 3-16	3,598	sd. sh. drlg.
Consd. Pet., No. 4 Needham, Newhall, Los Angeles	13- 3-16	3,840	hd. sd. drlg.
Barnsdall Oil, No. 8 R.S.F., Newhall, Los Angeles	27- 4-17	6,593	O.S. drlg.
General Pet. Corp., No. 101 P.E., Wilmington, L. A.	35- 4-13	3,380	flow 155 b.d.
Brookline Oil, No. 1 Donnie, Wilmington, Los Ang.	32- 4-13	2,846	sd. sh. drlg.
Bristol Oil, No. 1 Carter, Wilmington, Los Angeles	32- 4-13	1,876	sd. sh. drlg.
Dunlap, D. D., No. 6 Harbor, Wilmington, Los Ang.	2- 5-13	2,080	sd. sh. drlg.
Gremac Oil, No. 3 Harbor, Wilmington, Los Ange.	4- 5-13	2,597	sd. sh. drlg.
Inter-Counties Pet., No. 1 Edgar, Wilmington, L. A.	35- 4-13	1,847	sd. sh. drlg.
Jackson Expl., No. 1 Workman, Wilmington, L. A.	35- 4-13	3,520	flow 190 b.d.
L. A. Basin Drlg., No. 3 Kupfer, Wilmington, L. A.	35- 4-13	3,610	sd. sh. drlg.
Long Beach Dev., No. 8-W Harbor, Wilming., L. A.	3- 5-13	3,665	O.S. drlg.
Long Beach Dev., No. 9-W Harbor, Wilming., L. A.	3- 5-13	2,600	sd. sh. drlg.
Royalty Service Corp., No. 3 Santa Fe., Wilm., L. A.	33- 4-13	5,720	sd. sh. drlg.
Royalty Service Corp., No. 7-B Nelson, Wilm., L. A.	33- 4-13	6,090	sd. sh. drlg.
Union Pacific R. R., No. 121, Wilmington, Los Ang.	3- 5-13	2,665	sd. sh. drlg.
Union Pacific R. R., No. 122, Wilmington, Los Ang.	3- 5-13	3,329	sd. sh. drlg.
Union Pacific R. R., No. 123, Wilmington, Los Ang.	4- 5-13	3,565	sd. sh. drlg.
Union Pacific R. R., No. 124, Wilmington, Los Ang.	4- 5-13	2,831	cmtd. 2,736
Union Pacific R. R., No. 126, Wilmington, Los Ang.	4- 5-13	3,405	sd. sh. drlg.
Union Pacific R. R., No. 21-E, Wilmington, Los An.	3- 5-13	2,120	sd. sh. drlg.
Zephyr Oil, No. 2 Harbor, Wilmington, Los Ange.	33- 4-13	3,615	pmp. 100 b.d.
Kern Oil, No. 31 Monterey, Montebello, Los Angeles	2- 2-12	7,490	O.S. drlg.
Kern Oil, No. 35 Monterey, Montebello, Los Angeles	2- 2-12	6,991	sd. sh. drlg.
Union Oil, No. 1 Howard, Montebello, Los Angeles	2- 2-12	6,244	will deepen
Union Oil, No. 6 Wilcox, Montebello, Los Angeles	11- 2-12	7,608	flow 510 b.d.
Albertson Oil, No. 2 Schnakenberg, Monteb., L. A.	3- 2-12	6,197	sd. sh. drlg.
Angle Oil, No. 1 Community, Montebello, Los An.	11- 2-12	7,481	cmtd. 7,450
Bush Oil, No. 1 Newhouse, Montebello, Los Angeles	3- 2-12	3,954	sd. sh. drlg.
Bush Oil, No. 2 Zanetti, Montebello, Los Angeles	3- 2-12	3,762	sd. sh. drlg.
C. A. P. Oil, No. 1 Dutch, Montebello, Los Angeles	11- 2-12	7,657	liner froze
Crestline Oil, No. 1 Pedro, Montebello, Los Angeles	11- 2-12	3,291	sd. sh. drlg.
Dutch Oil, No. 1 Scheinik, Montebello, Los Angeles	3- 2-12	7,660	tested wet
Fremont Oil, No. 1 Aldrich, Montebello, Los Angeles	12- 2-12	7,506	O.S. drlg.
Fremont Oil, No. 1 Moynier, Montebello, Los Ange.	12- 2-12	7,550	sd. sh. drlg.
Fullerton Oil, No. 3 Scott, Montebello, Los Angeles	1- 2-12	7,610	O.S. drlg.
Getty-Pac. West., No. 1 Porter, Montebello, Los A.	10- 2-12	800	sd. sh. drlg.
Golden Eagle Oil Corp., No. 1 Lehman, Mont., L. A.	10- 2-12	7,480	O.S. drlg.
Golden Eagle Oil Corp., No. 2 Lehman, Mont., L. A.	10- 2-12	7,470	O.S. drlg.
Hathaway Oil, No. 3 Dore, Montebello, Los Angeles	3- 2-12	3,693	sd. sh. drlg.
Herley-Kelly, Inc., No. 2 De Staute, Monteb., L. A.	11- 2-12	7,506	O.S. drlg.
Larson Drlg., No. 3 Van Deusen, Montebello, L. A.	11- 2-12	7,894	cmtd. 7,515
Master Pet., No. 1 Grant, Montebello, Los Angeles	2- 2-12	7,610	flow 340 b.d.
M. O. C. Oil, No. 1 Zinn, Montebello, Los Angeles	11- 2-12	7,092	sd. sh. drlg.
Mabee, No. 37 Monterey, Montebello, Los Angeles	3- 2-12	4,993	sd. sh. drlg.
Marion Oil, No. 6 Cowan, Montebello, Los Angeles	1- 2-12	3,488	sd. sh. drlg.
McVicar & Rood, No. 2 Beach, Montebello, Los An.	11- 2-12	3,095	sd. sh. drlg.
Montebello Oil, No. 1 Nordon, Montebello, Los An.	3- 2-12	7,660	reaming
Pacific-Amer. Oil, No. 1 Groen, Montebello, Los An.	11- 2-12	7,601	flow 250 b.d.
Pueblo Oil, No. 2 Bird, Montebello, Los Angeles	11- 2-12	7,360	sd. sh. drlg.
Rainbow Pet., No. 1 Beverly, Montebello, Los Ang.	11- 2-12	6,871	sd. sh. drlg.
Shoreline Drlg., No. 1 Mont., Montebello, Los An.	11- 2-12	5,063	sd. sh. drlg.
Sunset Oil, No. 1 Robinson, Montebello, Los Ange.	12- 2-12	7,486	recmtd. 7,475
Star Pet., No. 1 Caneer, Montebello, Los Angeles	11- 2-12	7,635	flow 250 b.d.
Star Pet., No. 1 Allen, Montebello, Los Angeles	10- 2-12	3,171	sd. sh. drlg.
Texas, No. 2 Wilcox, Montebello, Los Angeles	3- 2-12	3,146	sd. sh. drlg.
Traders Oil, No. 2 Center, Montebello, Los Angeles	2- 2-12	7,675	flow 560 b.d.
Winlock Oil, No. 1 Win, Montebello, Los Angeles	11- 2-12	5,897	sd. sh. drlg.
Wood-Callahan Oil, No. 2 Todd, Montebello, Los A.	2- 2-12	7,070	sd. sh. drlg.
Allied Pet. Corp., No. 34 Signal, Long Beach, L. A.	30- 4-12	4,020	sd. sh. drlg.
Atlantic Oil, No. 14 Signal, Long Beach, Los Ange.	19- 4-12	2,584	sd. sh. drlg.
Dormax Oil, No. 1 Signal, Long Beach, Los Angeles	30- 4-12	10,394	no kick
Richfield Oil Corp., No. 8-B City, Long Beach, L. A.	29- 4-12	4,798	sd. sh. drlg.
El Hondo Pet., No. 1 Venago, Long Beach, Los An.	24- 4-13	10,093	fish D.P.
Johnston Drlg., No. 39 Signal, Long Beach, Los An.	24- 4-13	3,296	sd. sh. drlg.
Caminol, No. 3-19 Dominguez, Long Beach, Los An.	11- 4-13	4,570	sd. sh. drlg.
Massey, J. P., No. 1 Associates, Long Beach, L. A.	29- 4-12	4,747	reaming
Union Oil, No. 24 Chapman, Richfield, Los Angeles	29- 3- 9	4,852	redrlg. 4,565
Welco Oil, No. 1 Yorba, Richfield, Los Angeles	28- 3- 9	2,970	sd. sh. drlg.
Morgan, George, No. 1 Fricke, Yorba Linda, Los A.	21- 3- 9	980	sd. sh. drlg.
Union Oil, No. 22 Hole, East Coyote, Orange	22- 3-10	989	sd. sh. drlg.
Thompson, M. N., No. 1 Mesa, Costa Mesa, Orange	9- 6-10	1,725	sd. sh. drlg.
Southwest Expl., No. 24 State, Huntington B., Or.	10- 6-11	4,351	sd. sh. drlg.
Alabama Oil, No. 1 Rochester, Huntington B., Oran.	2- 6-11	2,750	pmp. 50 b.d.
Owen, W. D., No. 1 Montgomery, Huntington B., O.	36- 5-11	3,930	resume work

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S.T.R.	Depth	Status—
Navy Oil, No. 1 O'Donnell, Santa Maria, Santa Bar.	29-10-34	5,650	sd. sh. drlg.
Hearte, D. K., No. 1 Core, Cuyama, Santa Barbara	11- 9-25	2,230	hd. sh. drlg.
Shell Oil, No. 1 Barrett, San Marcos, Santa Barbara	13- 6-30	1,294	sd. sh. drlg.
General Pet. Corp., No. 5 More, Goleta, Santa Bar.	15- 4-28	2,690	sd. sh. drlg.
Coronet Oil, No. 4 Crown, Ojai, Ventura	17- 4-21	822	sd. sh. drlg.
Rilling, H. L., No. 1 Camden, South Mountain, Ven.	13- 3-21	3,130	bailing
Savage Oil, No. 8 Calumet, Shiells Canyon, Ventura	3- 3-19	2,530	will redrill
Renard Oil Corp., No. 1, Sespe, Ventura	6- 4-19	995	sd. sh. drlg.
Continental Oil, No. 13 Grubb, San Miguelito, Ven.	24- 3-24	4,798	sd. sh. drlg.
Continental Oil, No. 14 Grubb, San Miguelito, Ven.	24- 3-24	6,560	O.S. drlg.
C. C. M. Oil, No. 2-B Hobson, Rincon, Ventura	8- 3-24	3,815	flow 920 b.d.
C. C. M. Oil, No. 10-B Hobson, Rincon, Ventura	8- 3-24	1,898	sd. sh. drlg.
C. C. M. Oil, No. 28-B Hobson, Rincon, Ventura	16- 3-24	4,700	flow 302 b.d.
Tide Water A. O., No. 42 V.L.W., Ventura Ave., Ve.	23- 3-23	9,398	sd. sh. drlg.
Tide Water A. O., No. 43 V.L.W., Ventura Ave., Ve.	23- 3-23	2,955	sd. sh. drlg.
Tide Water A. O., No. 44 V.L.W., Ventura Ave., Ve.	23- 3-23	9,580	sd. sh. drlg.
Tide Water A. O., No. 16 McGonigle, Vent. Ave., V.	23- 3-23	8,260	sd. sh. drlg.
Tide Water A. O., No. 120 Lloyd, Ventura Ave., V.	27- 3-23	6,050	sd. sh. drlg.
Tide Water A. O., No. 121 Lloyd, Ventura Ave., V.	23- 3-23	9,860	flow 2,623 b.d.
Tide Water A. O., No. 20 Hartman, Vent. Ave., Ve.	22- 3-23	6,933	sd. sh. drlg.
Tide Water A. O., No. 21 Hartman, Vent. Ave., Ve.	22- 3-23	6,970	sd. sh. drlg.
Shell Oil, No. 105 Taylor, Ventura Ave., Ventura	29- 3-23	1,987	sd. sh. drlg.
Shell Oil, No. 106 Taylor, Ventura Ave., Ventura	29- 3-23	7,350	flow 3,603 b.d.
Shell Oil, No. 108 Taylor, Ventura Ave., Ventura	29- 3-23	8,300	O.S. drlg.
Shell Oil, No. 109 Taylor, Ventura Ave., Ventura	21- 3-23	2,141	sd. sh. drlg.
Shell Oil, No. 35 Edison, Ventura Ave., Ventura	21- 3-23	2,982	sd. sh. drlg.
Brit. Amer. Pet., No. 9 Hartman, Vent. Ave., Vent.	21- 3-23	6,583	sd. sh. drlg.
Lloyd Corp., No. 3 Dabney, Ventura Ave., Ventura	23- 3-23	9,980	completing
Lloyd Corp., No. 4 Dabney, Ventura Ave., Ventura	23- 3-23	10,002	O.S. drlg.
Belridge Oil, No. 1-26, North Belridge, Kern	1-28-20	5,197	sd. sh. drlg.
Belridge Oil, No. 4-27, North Belridge, Kern	27-27-20	8,515	redrlg. 6,502
Belridge Oil, No. 1-22, North Belridge, Kern	28-27-20	2,989	sd. sh. drlg.
Abbott, F. E., No. 1 Gamble, Blackwell's Corner, K.	7-27-20	1,220	cleaning out
Tide Water A. O., No. 8-A Elliott, Lost Hills, Kern	11-26-20	1,225	deepening
McDonald & Dearin, No. 3 Kernco, Kern Front, K.	10-28-27	2,245	gr. sh. drlg.
Dick & Dore Oil, No. 9 Kern, Kern River, Kern	34-28-28	488	pmp. 6 b.d.
Dick & Dore Oil, No. 10 Kern, Kern River, Kern	34-28-28	526	sd. sh. drlg.
Dick & Dore Oil, No. 11 Kern, Kern River, Kern	34-28-28	458	sd. sh. drlg.
Dick & Dore Oil, No. 13 Kern, Kern River, Kern	34-28-28	546	sd. sh. drlg.
Helm & Smith, No. 16 Kern, Kern River, Kern	34-28-28	648	sd. sh. drlg.
Crusaders Oil, No. 1 Quinn, Jasmine, Kern	9-25-27	3,140	granite; abd.
Hogan Pet., No. 1 Wible, Mountain View, Kern	23-30-29	6,619	P.B. 5,958
Shell Oil, No. 3-20 Voorhies, Mountain View, Kern	20-30-29	3,960	sd. sh. drlg.
O'Reilly, Frances, No. 2 Seale, Edison, Kern	5-30-29	4,103	pmp. wtr.
El Tejon O. & R., No. 1 Douglas, Edison, Kern	32-29-29	4,100	O.S. drlg.
Kern Valley Drlg., No. 1 Kern, Round Mountain, K.	4-29-29	1,898	will deepen
Texas, No. 1 Mott, Arvin, Kern	9-31-29	6,080	O.S. drlg.
Richfield Oil Corp., No. 2 Mott, Arvin, Kern	9-31-29	6,155	tested wet
Western Gulf Oil, No. 44-B, KCL, Fruitvale, Kern	22-29-27	3,950	sd. sh. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
B. ck., bottom choke.
Br. sh., brown shale.
B.S., basic sediment.
C.&P., cellar and pits.
Cd. or Crd., cored.
C.D., correct depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg., or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.S.T., drill-stem test.
D.P., drill pipe.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Recvd., recovered.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtrkd. or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas, and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T. ck., top choke.
T.P., tubing pressure.
Tr., tract.
Tstd., tested.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.O.O., waiting on orders.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shutoff O.K.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

Western Gulf Oil, No. 1 Ansolabehere, Fruitvale, K.	27-29-27	2,916	will deepen
Meridian Pet. Corp., No. 4 fee, Kern	23-29-27	3,055	will deepen
Richfield Oil Corp., No. 1, KCL, Fruitvale, Kern	29-29-27	4,400	pmp. 126 b.d.
Union Oil, No. 4-23 Bowerbank, Goose Lake, Kern	25-29-24	11,200	sd. sh. drlg.
Standard Oil, No. 3 Mushrush, Wasco, Kern	7-27-24	10,790	sd. sh. drlg.
Union Oil, No. 21-34, KCL, Rio Bravo, Kern	34-28-25	6,991	sd. sh. drlg.
Union Oil, No. 52-34, KCL, Rio Bravo, Kern	34-28-25	5,986	sd. sh. drlg.
Superior Oil, No. 2 Fink, Rio Bravo, Kern	27-28-25	8,983	sd. sh. drlg.
Superior Oil, No. 2 Burner, Rio Bravo, Kern	27-28-25	1,507	cmtd. 1,507
Standard Oil, No. 1 Ross, Greeley, Kern	20-29-26	11,575	O.S. drlg.
Standard Oil, No. 11-20, KCL, Greeley, Kern	18-29-26	11,415	O.S. drlg.
Standard Oil, No. 11-21, KCL, Greeley, Kern	18-29-26	11,850	gr. sh. drlg.
Standard Oil, No. 12-5, KCL, NW Greeley, Kern	7-29-26	11,459	O.S. drlg.
General Pet. Corp., No. 1 Farrand, NE Greeley, K.	12-29-25	5,970	sd. sh. drlg.
Continental Oil, No. 2-D, KCL, Bellevue, Kern	14-30-26	14,051	P.B. 11,802
Shell Oil, No. 32-28-B, KCL, Ten Section, Kern	28-30-26	7,855	sd. sh. drlg.
Shell Oil, No. 61-25-A, KCL, Ten Section, Kern	25-30-25	7,860	sd. sh. drlg.
Tide Water A. O., No. 5-7-E, KCL, Strand, Kern	7-30-26	8,273	sd. sh. drlg.
Shell-Ohio, No. 64-12-A, KCL, Strand, Kern	12-30-25	8,517	O.S. drlg.
Ohio Oil, No. 16-E, KCL, Canal, Kern	13-30-25	7,760	sd. sh. drlg.
Shell Oil, No. 21-13-A, KCL, Canal, Kern	13-30-25	5,996	sd. sh. drlg.
Richfield Oil Corp., No. 41-32-A, KCL, Tupman, K.	32-30-25	9,001	O.S. drlg.
Richfield Oil Corp., No. 58-29-A, KCL, Tupman, K.	29-30-25	2,688	sd. sh. drlg.
Richfield Oil Corp., No. 67-4-B, KCL, Cole's Lv., K.	4-31-25	9,750	sd. sh. drlg.
Richfield Oil Corp., No. 76-4-B, KCL, Cole's Lv., K.	4-31-25	9,499	cleaning out
Standard Oil, No. 20-2, KCL, Cole's Levee, Kern	9-31-25	8,660	P.B. 8,265
Standard Oil, No. 20-3, KCL, Cole's Levee, Kern	9-31-25	9,299	O.S. drlg.
Standard Oil, No. 20-4, KCL, Cole's Levee, Kern	9-31-25	9,691	P.B. 9,398
Ohio Oil, No. 5-F, KCL, Cole's Levee, Kern	10-31-25	9,271	flow 480 b.d.
Ohio Oil, No. 6-F, KCL, Cole's Levee, Kern	11-31-25	4,882	sd. sh. drlg.
Tide Water A. O., No. 81, KCL, Cole's Levee, Kern	14-31-25	10,934	P.B. 10,815
Tide Water A. O., No. 65, KCL, Cole's Levee, Kern	13-31-25	7,593	sd. sh. drlg.
Union Oil, No. 56-11, KCL, Cole's Levee, Kern	11-31-25	9,180	sd. sh. drlg.
Quality Oil, No. 4 Cypress, Midway-Sunset, Kern	22-32-23	1,050	sd. sh. drlg.
Quality Oil, No. 6 W.P., Midway-Sunset, Kern	27-32-23	1,975	pmp. wtr.
Merritt-Annex Oil, No. 8 Fried, Midway-Sunset, K.	25-12-24	2,494	rig to pmp.
General Pet. Corp., No. 1 B.V.A., Midway-Sunset, K.	1-32-24	10,614	fish D.P.
Signal O. & G., No. 6 Kendon, Midway-Sunset, Kern	35-32-23	2,160	sd. sh. drlg.
Shell Oil, No. 45-9 B.V.A., Midway-Sunset, Kern	9-32-25	9,890	redrlg. 6,630
National Oil, No. 34 Sunset, Midway-Sunset, Kern	35-32-23	2,030	sd. sh. drlg.
Mitchell, E. H., No. 13 Sunset, Midway-Sunset, Kern	15-31-22	855	pmp. 25 b.d.
Texas, No. 36 M.S., Midway-Sunset, Kern	32-32-24	3,220	sd. sh. drlg.
Ohio Oil, No. 43-3-B, KCL, Paloma, Kern	3-32-26	7,394	fish D.P.
Western Gulf Oil, No. 74-3-A, KCL, Paloma, Kern	3-32-26	9,761	sd. sh. drlg.
Richfield Oil Corp., No. 81-36 B.V.A., B.V.L., Kern	36-31-25	10,570	sd. sh. drlg.
Continental Oil, No. 1-F, KCL, San Emidio, Kern	5-10-21	9,792	gr. sd. drlg.
Shell Oil, No. 52-2-13-A, KCL, San Emidio, Kern	13-11-22	12,240	hd. sh. drlg.
Trico O. & G., No. 2 Westco, McKittrick, Kern	34-30-22	1,475	dry; abd.
Jergins Trust, No. 1 Cheney, Panoche Creek, Fresn.	29-14-13	1,940	sd. sh. drlg.
Standard Oil, No. 51-19-B fee, NE Coalinga, Fresno	19-19-16	7,670	sd. sh. drlg.
Standard Oil, No. 62-19-B fee, NE Coalinga, Fresno	19-19-16	4,488	sd. sh. drlg.
Union Oil, No. 57-18 Cook, NE Coalinga, Fresno	18-19-16	8,090	sd. sh. drlg.
Union Oil, No. 75-18 Cook, NE Coalinga, Fresno	18-19-16	6,875	sd. sh. drlg.
Amerada Pet. Corp., No. 3-17 S.P.L., NE Coal., Fr.	17-19-16	8,206	flow 1,248 b.d.
Bandini Pet., No. 46-18-B, NE Coalinga, Fresno	18-19-16	6,641	sd. sh. drlg.
Superior Oil, No. 2 Husong, NE Coalinga, Fresno	18-19-16	4,697	sd. sh. drlg.
Bandini Pet., No. 51-30-B, Central Coalinga, Fresno	30-19-16	3,388	sd. sh. drlg.
Lytle, R. S., Agt., No. 22-7-F, SE Coalinga, Fresno	7-20-16	5,392	sd. sh. drlg.
Lytle, R. S., Agt., No. 26-18-F, SE Coalinga, Fresno	18-20-16	7,207	O.S. drlg.
Lytle, R. S., Agt., No. 42-18-F, SE Coalinga, Fresno	18-20-16	6,533	sd. sh. drlg.
Univ. Consd. Oil, No. 81-24-C, SE Coalinga, Fresno	24-20-15	7,340	sd. sh. drlg.
Texas, No. 4 Exeter fee, SE Coalinga, Fresno	6-20-16	5,993	sd. sh. drlg.
Texas, No. 1 Anderson, SE Coalinga, Fresno	6-20-16	7,361	sd. sh. drlg.
Standard Oil, No. 62-13-C fee, SE Coalinga, Fresno	13-20-15	7,472	sd. sh. drlg.
Standard Oil, No. 66-13-C fee, SE Coalinga, Fresno	13-20-15	6,485	sd. sh. drlg.
Standard Oil, No. 75-13-C fee, SE Coalinga, Fresno	13-20-15	7,070	sd. sh. drlg.
Standard Oil, No. 31-19-F fee, SE Coalinga, Fresno	19-20-16	6,780	sd. sh. drlg.
Superior Oil, No. 1-B Cagle, SE Coalinga, Fresno	6-20-16	7,298	sd. sh. drlg.
Superior Oil, No. 4 Huffman, Kettleman N. D., Fr.	29-21-17	10,360	sd. sh. drlg.
K. N. D. A., No. 27-18-J, Kettleman N. D., Fresno	18-21-17	6,570	sd. sh. drlg.
K. N. D. A., No. 38-22-Q, Kettleman N. D., Kings	22-22-18	7,925	completing
K. N. D. A., No. 56-22-Q, Kettleman N. D., Kings	22-22-18	7,810	flow 4,375 b.d.
K. N. D. A., No. 36-26-Q, Kettleman N. D., Kings	26-22-18	7,391	sd. sh. drlg.
K. N. D. A., No. 47-26-Q, Kettleman N. D., Kings	26-22-18	7,875	sd. sh. drlg.
K. N. D. A., No. 41-28-Q, Kettleman N. D., Kings	28-22-18	7,250	reaming
Standard Oil, No. 27-19-J, Kettleman N. D., Fresno	19-21-17	10,600	gr. sh. drlg.
Standard Oil, No. 72-19-J, Kettleman N. D., Fresno	19-21-17	10,440	sd. sh. drlg.
Standard Oil No. 27-7-Q, Kettleman N. D., Kings	7-22-18	9,540	O.S. drlg.
Standard Oil, No. 54-7-Q, Kettleman N. D., Kings	7-22-18	7,470	sd. sh. drlg.
Standard Oil, No. 63-7-Q, Kettleman N. D., Kings	7-22-18	7,360	sd. sh. drlg.
Standard Oil, No. 32-17-Q, Kettleman N. D., Kings	17-22-18	7,484	hd. sh. drlg.
Standard Oil, No. 61-17-Q, Kettleman N. D., Kings	17-22-18	5,982	sd. sh. drlg.
Standard Oil, No. 72-17-Q, Kettleman N. D., Kings	17-22-18	6,074	redrlg. 5,880
Standard Oil, No. 76-17-Q, Kettleman N. D., Kings	17-22-18	6,540	sd. sh. drlg.
Standard Oil, No. 83-17-Q, Kettleman N. D., Kings	17-22-18	7,145	br. sh. drlg.
Standard Oil, No. 52-21-Q, Kettleman N. D., Kings	21-22-18	6,970	br. sh. drlg.
Standard Oil, No. 74-21-Q, Kettleman N. D., Kings	21-22-18	6,953	br. sh. drlg.
Standard Oil, No. 32-27-Q, Kettleman N. D., Kings	27-22-18	7,800	sd. sh. drlg.
Standard Oil, No. 63-35-Q, Kettleman N. D., Kings	35-22-18	5,775	sd. sh. drlg.
Compass Oil, No. 1 Points, Deer Creek, Tulare	8-23-26	4,327	slate; abd.
Priest Valley Pet., No. 1 Greve, P. Valley, Monterey	22-20-12	1,668	gr. sd. drlg.
Buttes Oilfields, Inc., No. 6 Buttes, Marysville, Sut.	1-15- 1	6,090	fish D.P.
Seaboard Oil, No. 1 Howard, Bear Creek, Merced	6- 8-11	7,074	dry; abd.

OKLAHOMA

Week Ended December 9

NORTHERN OKLAHOMA

Caddo County

Sinclair Prairie Oil Co. No. 1 Gorman, SW NW NW Sec. 1-16-13w. S. heavy oil; cd. 6,442-49 ft.; Wdfrd. 6,600 ft.; Hntn. 7,157 ft.; cd. 7,439-44 ft.; rec. S.O.; drlg. 8,327 ft.

Cleveland County

Nels Burton No. 1 Boggs, NE NE SE Sec. 16-9-2w. 2nd Wlx. 7,585 ft.; T.D. 7,646 ft.; P.B. 7,473 ft.; shot and acd.; P. 113 B.O.P.D.; 20 to 50% wtr.

Sinclair-Prairie No. 1 Ward, SE SE SE Sec. 30-7-1. Hntn. 6,185 ft.; Vla. 6,408 ft.; open 30 min. at 6,800 ft., rec. S. W.; P.B. to 6,782 ft.; swb. 106 B.O. in 24 hrs.; hvy. blk. oil; drlg. 8,292 ft.

J. F. Smith's No. 1 Corbett, C SW NE Sec. 20-6-1. (O.W.D.D.); O.T.D. 6,760 ft.; 6-in. 6,320 ft.; S.D. 800 ft.

Comanche County

W. R. Ramsey's No. 1 Mansfield, C NW NE Sec. 16-1-4w. Lvtn. 6,800-6,920 ft.; sd. 9,191 ft., S.S.G.; T.D. 9,607 ft.; big. to perf.

Comanche County

Mid Night Oil No. 1 Howe, NW NW NE Sec. 30-2-13w. O.W.D.D.; O.T.D. 703 ft.; fsg. 998 ft.

Creek County

A. S. Kaplan's No. 1 Mills, NW NW SE Sec. 12-15-9. Drlg. 1,820 ft.

Sunray Oil Co. No. 1 Harris, SW SW NE Sec. 30-14-7. T.D. 2,927 ft.; est. 370,000 cu. ft. gas.

Dewey County

Magnolia Pet. Co.'s No. 1 Fiekes, C SW SW Sec. 31-18-14w. Drlg. 3,660 ft.

Garvin County

Duckworth & Jennings' No. 1 Bowie, NW NE SE Sec. 3-4-3. W.O.C. 60 ft.

Patsy Oil Co.'s No. 1 James, NW NE NE Sec. 16-5-3. Drlg. 2,510 ft.

Robinson & Midco's No. 1 Clay, SW SW NW Sec. 21-4-3. Simp. dense 3,145 ft.; cd. 3,277-94 ft.; rec. 13 ft. sdy. dolo.; T.D. 3,503 ft.; S.D.

Grady County

John Graham's No. 1-A Thomas, NW SW NE Sec. 19-5-7w. Cd. 3,522-37 ft., sd.& sh.; T.D. 3,537 ft.; D.&A.

Grant County

Magnolia Pet. Co.'s No. 1 Margay-Johnson, SW SW NE Sec. 29-25-8w. Vla. 6,542 ft.; T.D. 6,568 ft.; W.O.C.

Hughes County

Senora O. & G. Co.'s No. 1 Warren, NW NW SE Sec. 35-6-8. T.D. 3,502 ft.; S.D.

Thompson Bros.' No. 1 Meadors, NE NE NE Sec. 23-9-9. Drlg. 1,208 ft.

Jackson County

English Drlg. Co.'s No. 1-A Aetna Life, SE SE NE Sec. 26-3-20w. Arb. 1,585 ft.; drlg. 1,610 ft.

Jefferson County

H. M. Weir No. 1 Carmichael, NE NE SW Sec. 23-7s-7w. Drlg. 3,525 ft.

Kay County

Malarnee Oil Co.'s No. 1 Harris, C SW NE Sec. 14-25-1. T.D. 2,055 ft.

Zephyr Drlg. Co.'s No. 1 High, NE NW NW Sec. 24-26-2w. Lost circ. in chat at 3,965 ft.

Kingfisher County

Anderson-Prichard No. 1 Geis, C NE SW Sec. 15-18-9w. Lytn. 6,450-6,510 ft.; T.D. 8,507 ft.; P.B. 7,365 ft.; ga. 3,000,000 cu. ft. gas; est. 12 bbl. dist.

Ace Gutowsky No. 1 Lankford, NE NE SE Sec. 34-17-6w. Miss. 7,014 ft.; Woodford 7,531 ft.; Msnr. 7,562 ft.; Wlx. 8,105 ft.; 2nd Wlx. 8,275 ft.; T.D. 8,330 ft.; S.D.O.

Kiowa County

B. & M. Drlg. Co.'s No. 1 Burnett, SW NE NE Sec. 30-7-20w. Drlg. 970 ft.

Bollen-Dillard & Roberts No. 1 Holcomb, NE NE SW Sec. 25-7-19w. Drlg. 1,470 ft.

Frank Dillard et al's No. 1 Hobbs, SE SE NW Sec. 35-8-17w. Gr. wsh. 555 ft.; drlg. 593 ft.

Hagerling et al No. 1 Boseman, SE SE NE Sec. 14-5-18w. Drlg. 1,286 ft.

C. J. Hagerling No. 1 Kimray, SW SW NW Sec. 36-5-18w. T.D. 1,592 ft.; S.D.

Lincoln County

Black Gold No. 1 Locquchment, NE NE NE Sec. 28-14-6. T.D. 3,175 ft.; est. 5 B.O.P.D.; S.D.

Youngblood et al's No. 1 Wright, NE NE SE Sec. 32-16-6. Drlg. 3,850 ft.

Muskogee County

R. Garrett's No. 1 Escoe, SW SW SE Sec. 16-13-17. Drlg. 482 ft.

Noble County

Franks & Ellis' No. 1 Stranka, SW SW NW Sec. 35-24-1w. T.D. 1,447 ft.

Okfuskee County

Agris 'No. 1 Sporleder, NE NE NW Sec. 25-11-9. T.D. 1,672 ft.; D.&A.

Osage County

Midco Oil Co.'s No. 1 Osage, NE NE SW Sec. 17-22-8. S.D. 2,847 ft.

Payne County

Helmerich & Payne's No. 1 Berry, Sec. 14-17-6. T.D. 4,870 ft. in Wlx.; F. 220 B.O. in 12 hrs.

C. R. Hoagland No. 1 Stanolind, SE SE SW Sec. 27-18-4. Miss. 3,800 ft.; T.D. 3,905 ft.; D.P. stk.

Pontotoc County

Crescent Oil Co.'s No. 2 Thompson, NE NW SW Sec. 29-3-4. Drlg. by at 216 ft.

Pottawatomie County

Harper & Turner's No. 1 Robinette, SE NE NW Sec. 2-9-4. Vla. 4,535 ft.; cg. 4,550 ft.

Seminole County

Summit Drlg. Co.'s No. 1 Campbell, SE NE SE Sec. 24-10-7. Drlg. 1,325 ft.

Sequoyah County

Thompson Bros. No. 1 Ruby, NW NW NE Sec. 30-12-22, Hntn. 1,451 ft.; T.D. 1,912 ft. (cor.); S.D.

Washita County

Continental Oil Co. No. 1 Proctor, C NW Sec. 28-10-20w. T.D. 14,582 ft.; set retainer 13,350 ft.; P.B. 11,135 ft.; to perf. for gas sds.

SOUTHERN OKLAHOMA

Atoka County

W. R. Holly's No. 1 Johnson, NW NW NE Sec. 36-3s-13. Drlg. 57 ft.

Carter County

W. F. Turner's No. 1 Smith, NE SW SE Sec. 16-3s-1w. Drlg. L. 2,886 ft.

Choctaw County

Clyde Ross et al No. 1 Hardy, SE SE NW Sec. 21-7s-15. Drlg. sd. 1,740 ft.

Jackson County

Harper et al's No. 1 Thompson, SE SE SE Sec. 5-1s-21w. Drlg. 550 ft.

Jefferson County

Fred Land et al's No. 1 Barrett, NE SE SE Sec. 14-6s-6w. Sd. 1,852 ft., S.O.; D. P. stk. at 1,100 ft.; T.D. 1,890 ft.

Marshall County

Hughes et al No. 1 Vittitto, C NE SE Sec. 11-5s-4e. O.W.D.D.; O.T.D. 7,100 ft.; T.D. 7,110 ft.; S.D.

Johnson et al No. 1 Godfrey, SW SE NE Sec. 14-6s-6e. Vla. 2,627 ft.; S.S.O.; drlg. 4,390 ft.

Stephens County

Ray Johnson's No. 1 Baker, C SE NW Sec. 35-2s-6w. Open 15 min. and rec. 600 ft. wtr.; T.D. 2,002 ft.; S.D.

Tillman County

Magnolia Pet. Co.'s No. 1 Amyx, NW SE SE Sec. 17-3-16w. Stain oil 5,310 ft.; drlg. 5,465 ft.

KANSAS

Week Ended December 9 (Descriptions are East unless marked otherwise)

Barbour County

Patton Drlg. Co.'s No. 1 Hoss, C W½ NW SW Sec. 12-30-15w. Drlg. 3,320 ft.

Barton County

C. E. Ash et al's No. 1 Montgomery, NW NW NW Sec. 11-16-11w. Topeka 2,658 ft.; Lans. 3,029 ft.; Arb. 3,393 ft.; T.D. 3,402 ft.; H.F.W.

Crown Pet. Co. No. 1 Marchand, NE SE NW Sec. 13-20-11w. Drlg. 2,910 ft.

Sam Schneider's No. 1 Steckel, C W½ SW NE Sec. 11-20-12w. Lans. 2,715 ft.; Arb. 3,351-3,404 ft., T.D.; D.&A.

Butler County

Allison & Talbott's No. 1 Zink, SE SE NE Sec. 32-29-5. S.O. 2,140 ft.; fsg. 2,710 ft.

Carey & Jennings No. 1 Kelly, C SW Sec. 20-27-4. S.D. 2,660 ft.

Cromwell & Lewis No. 1 Stern, NW NW NW Sec. 27-27-6e. M.I.M.

C. H. Pechin et al's No. 1 Hartenbower (O.W.D.D.), NW NW NW Sec. 16-29-6. O.T.D. 3,257 ft.; Peru sd. 2,476-2,530 ft.; S.D. 1,200 ft.

E. B. Shawyer's No. 1 fee, SE SE NW Sec. 26-29-4. Drlg. 2,060 ft.

Cowley County

Garden's No. 1 Rahn, SW SW NW Sec. 13-34-5. Bart. 2,936 ft.; S. 2 B.O.P.H.; S.D.O.

Mitchell Drlg. Co.'s No. 1 Ireton, C E½ SE NE Sec. 7-31-4. Drlg. 2,325 ft.

Earl Wakefield's No. 1 Steel, C E½ SW SE Sec. 6-32-6. Drlg. 2,850 ft.

Douglas County

Greenway Oil Co.'s No. 1 Grosdedier, C E½ SE NE Sec. 24-13-20. T.D. 740 ft.; abd.

Ellis County

Virginia Drlg. et al's No. 1 Craig, CEL SE SE Sec. 8-11-16w. Base K.C. 3,300 ft.; congl. 3,352-72 ft., T.D.; S.D.; repr.

Ellsworth County

Cities Service Oil Co.'s No. 1 Padiena, SE SE SE Sec. 26-14-10w. Drlg. 2,250 ft.

Greenwood County

Chas. Barker's No. 1 Gregg, SW NW SE Sec. 35-25-12. (O.W.D.D.). O.T.D. 1,660 ft.; drlg. 1,955 ft.

A. A. Hinze et al's No. 1 Hester, NW SW NE Sec. 1-22-12. S.D. 510 ft.

Marylyn Oil Co.'s No. 1 Burke, NE NE SW Sec. 27-24-11. S.D. 50 ft.

Jefferson County

E. W. Mosbacker et al's No. 1 McLaughlin, SW NE NW Sec. 4-10-20. Bart. 1,422-26 ft.; at 1,430 ft. est. 6,000,000 cu. ft. gas; Miss. 1,465 ft.; drlg. 1,665 ft.

Johnson County

McCain's No. 1 Doan, C SW NW Sec. 34-12-22. T.D. 580 ft., S.D.

Kingman County

Skelly Oil Co. No. 1 Miller, CSL N½ NE Sec. 31-27-10w. Set 7-in. 4,067 ft.; R.U. S.T.

Lyon County

H. H. Royer's No. 1 Trear, Sec. 20-21-12. Drlg. 875 ft.

McPherson County

Fain Drlg. Co.'s No. 1 Briggs, CWL SW SW Sec. 21-20-5w. Miss. 3,495-3,586 ft., T.D.; D.&A.

Tom Palmer's No. 1 Williams, CEL SE NE Sec. 32-19-5w. Drlg. 2,350 ft.

Sunray Oil Co.'s No. 1 Anderson, CWL SW NW Sec. 17-20-5w. Drlg. 3,614 ft.

Westgate-Greenland's No. 1 Chindberg, C N½ NE SE Sec. 18-18-1w. S.S.O. 2,781-83 ft.; T.D. 2,790 ft.; rng. csg.

Marion County

Polhamus et al's No. 1 Noone, NW NW SE Sec. 18-18-3. Kans. City 1,680 ft.; drlg. 1,970 ft.

Montgomery County

Lerke & Whertan No. 1 Clemmer, C SW SW Sec. 21-32-15. Arb. 1,530 ft.; set 5 in. csg.; W.O.C.

Pratt County

Skelly Oil Co.'s No. 1 Royse, C SW Sec. 9-28-11w. Lans. 3,604 ft.; Vla. 4,246-49 ft.; T.D. 4,268 ft.; S.S.O.; 802,000 cu. ft. gas.

Rice County

H. B. Garden et al's No. 1 Misener, C N½ NW NE Sec. 21-21-7w. T.D. 3,420 ft.; H.F.W.; S.S.O.; D.&A.

Sacco Oil's No. 1 Habeger, SE SE SW Sec. 12-18-10w. Tpk. 2,494 ft.; Lans. 2,905 ft.; Arb. 3,249 ft.; T.D. 3,265 ft.; B. 10 B.O.P.H.

Stanolind O. & G. Co.'s No. 1 Bredfeldt, CSL SW NE Sec. 2-19-10w. S.S.O. in Arb. 3,335-49 ft., T.D.; D.&A.

Vickers Pet. Co. No. 1-A Rodenberg, CNL NW¼ Sec. 8-18-10w. Lans. 2,930 ft.; Arb. 3,265-81 ft., T.D. N.S.

Rooks County

Broadview Oil No. 1 Baxter, NE SW SW Sec. 35-8-16w. Lans. 3,180 ft.; S.S.O.; T.D. 3,263 ft.; P. 89 B.O. in 7 hrs., pot. 269 B.O.P.D.

Russell County

Ray Shaffer et al's No. 1 Shaffer, NE NE SW Sec. 9-13-11w. S.D. 1,315 ft.

Shell Oil Co., Inc.'s No. 1 Bender, SW SW SE Sec. 20-15-14w. Lans. 3,095 ft.; Arb. 3,378 ft.; T.D. 3,430 ft.; D.&A.

Sheridan County

Cities Service Oil Co.'s No. 1 McGinnis, SW SW NW Sec. 10-9-27w. Drlg. 2,510 ft.

Stafford County

Jontinental Oil Co. No. 1 Keller, SE SE SE Sec. 15-24-13w. S.O. 3,733-43 ft. cd. 4,111-16 ft. and rec. 5 ft. sat.; T.D 4,116 ft.; 3,900 ft. O.I.H.

Seaney & Clampitt's No. 1 Brown, SW SW SE Sec. 1-21-13w. Drlg. 2,895 ft.

Woodson County

Bird, Hanley & Sheedy No. 1 Pingrey, C S½ SE Sec. 22-25-15. Spd.

LOUISIANA

N. LOUISIANA WILDCATS

Bossier Parish

Cary & Gibson's No. 2-A Connell, 115 ft. S. 395 ft. W, NE cor. SE SE Sec. 15-10-11. Drlg. sdy. sh. 362 ft.

Gus Rtel. Co.'s No. 20 C. B. Hodges, 3,131 ft. N, 1,388 ft. W, SE cor. Sec. 24-16-12. T. Pett. L. 5,298 ft.; T. Travis Pk. 5,590 ft.; T.D. 7,689 ft.; fsg. D.S.

Oils Finance Corp.'s No. 9 Ark. fee, 200 ft. N, 400 ft. W, SE cor. NE SE Sec. 15-19-11. R.U.; S.D.

Premier Inv. Co.'s No. 7-B Kendrick, 150 ft. N, 1,980 ft. W, SE cor. Sec. 22-19-11. D.S.T. 1,029-42 ft.; S.O.&G.; set 8-in. csg. 1,770 ft.; T.D. 1,785 ft.; W.O.C.

Premier Inv. Co.'s No. 7-C Kendrick, 150 ft. N, 585 ft. E, SW cor. SE Sec. 22-19-11. T. sd. 329 ft.; set 10-in. csg. 307 ft.; tstd. dry; S.O. 338 ft.; set 7-in. csg. 811 ft.; cg. 835 ft.

J. B. Stovall's No. 4 Gayoso Co., 1,170 ft. N, 150 ft. E SW cor. Sec. 14-19-11. Set 4-in. csg. 367 ft.; W.O.S.R. 387 ft.

Triangle Drlg. Co.'s No. 4-A Herold, 1,001 ft. E, 333 ft. S, NW cor. Sec. 13-17-12. Drlg. 100 ft.

Union Prod. Co.'s No. 1-A Herold, 1,326 ft. S, 1,322 ft. W, NE cor. Sec. 29-17-11. Cg. 4,357 ft.

Caddo Parish

S. H. Cassidy et al's No. 1 Morgan, 1,800 ft. N, 455 ft. W, SE cor. Sec. 2-20-16. Set 10-in. csg. 50 ft.; drlg. sh. 400 ft.

D. T. Cauble's No. 1 Darnell, Sec. 17-22-16. R.U.

Mrs. O. P. Clements' No. 2-B Caddo Lv. Bd., Sec. 5-20-16. Drlg. sd. 140 ft.

L. I. Davis' No. 1 Williams, C NW NW Sec. 14-15-15. R.U.; S.D.

T. B. Donnell's No. 1 Surrey Oil Co., 2,970 ft. S, 2,475 ft. W, NE cor. Sec. 12-20-16. Set 7-in. csg. 1,343 ft.; T.D. 1,535 ft.; acdz. with 3,000 gal.; W.O.S.R.

Jones Oil Co.'s No. 1 Ober, Sec. 1-20-16. R.U.

Jones Oil Co.'s No. 1 Pitts, 250 ft. S, 674 ft. W, NE cor. Sec. 24-20-16. Tstd. dry 1,679 ft., S.O.; acdzd. with 3,000 gal.; W.O.

C. C. Lowery's No. 1 Huckaby, 890 ft. S, 990 ft. E, C Sec. 7-20-15. Set 10-in. csg. 60 ft.; drlg. sh. 200 ft.

McElmury & Hamilton's No. 1 Mattson, 591 ft. W, 1,866 ft. S, NE cor. NW Sec. 1-20-16. Set 7-in. 1,329 ft.; T.D. 1,550 ft.; acdz. with 3,000 gal.; W.O. S.R.

Magnolia Pet. Co.'s No. 28 Dillon hrs., Sec. 24-21-15. R.U.

E. E. Marr's No. 1 Brown, Sec. 11-20-16. R.U.

J. F. Mechem's No. 2 Crystal fee, 400 ft. S, 640 ft. W NE cor. Sec. 14-21-16. Set 8-in. csg. 1,012 ft.; W.O.C.

J. Ray Murray et al's No. 1 Barfield, 1,470 ft. SE cor. Sec. 21-21-15. Set 10-in. csg. 80 ft.; set 5½-in. csg. 1,490 ft.; drlg. 1,535 ft.

Riggs & Lester's No. 2-A Seybert, 218 ft. N, 4,242 ft. E, C Sec. 17-20-15. Set 5½-in. 1,338 ft.; T.D. 1,640 ft.; will acd.

Southern Oil & Gas Co., Inc.'s No. 1 Muslow, 1,654 ft. S, 573 ft. W, NE cor. NW Sec. 5-20-15. Drlg. 1,420 ft.

Stanolind O. & G. Co. No. 1, 131 Dillon hrs., C SE NE Sec. 14-21-15. Ran Schmb. 9,109 ft.; T. Smkvr. L. 8,952 ft.; ran Schlum. 10,164 ft.; T. cap rock 10,148 ft.; igneous rock 11,419 ft.; T. salt 10,159 ft.; base salt 11,405 ft.; T.D. 11,419 ft.; P.B. to 9,981 ft.; tstd. mud through csg. ripped at 7,582-46 ft., 7,557-64 ft., 7,539-63 ft., 7,459-85 ft., and 6,946-63 ft.; S.G.; set retainer 6,940 ft.; W.O.C.

Stanolind Oil & Gas Co.'s No. 1 Dorian, 220 ft. S, 960 ft. E C Sec. 18-21-15. Set 5½-in. csg. 1,536 ft.; acd. 1,724 ft.

Stanolind O. & G. Co.'s No. 5 Huckaby, 490 ft. N, 990 ft. E, SW cor. SW¼ Sec. 11-21-15. Set 5½-in. csg. 1,527 ft.; T.D. 1,695 ft.; acd. with 3,000 gal.; tstg. 2½ B.P.D.

Temple Oil Co.'s No. 1 Huckaby-Parker, 1,320 ft. N, 330 ft. E, SW cor. SE Sec. 13-22-16. Set 7-in. csg. 2,608 ft.; T.D. 2,626 ft.; completing.

Jack Terrell's No. 1 Welch, Sec. 3-20-16. Drlg. 410 ft.

Texas Co.'s No. 10 Ellerbe fee, Sec. 15-21-16. R.U.

Texas Co.'s No. 1 Guy, Sec. 1-20-16. 6⅝-in. csg. 1,335 ft.; W.O.C.

Travis & Red Iron Drlg. Co.'s No. 1 Chandler et al, 819 ft. S, 2,086 ft. E, NW cor. Sec. 5-23-15. Set 9⅝-in. csg. 961 ft.; T. por. L. 6,073-86 ft.; set 5½-in. csg. 6,100 ft.; T.D. 6,154 ft.; acdzg.

Ivan Wright's No. 1 Neel est., Sec. 12-20-16. R.U.

Caldwell Parish

Critchett & Woods (formerly E. T. Oakes) No. 1 Kyles, NE cor. SW NW Sec. 18-11-3e. T.D. 4,975 ft.; D.S. stk.; lub. with 100 bbl. oil.

Claiborne Parish

Lisbon Explin. Co. No. 1 Roberts Vaughn, 330 ft. N, 660 ft. E, SW cor NW NE Sec. 36-21-5. O.W.D.D.; O.T.D 5,313 ft.; recmtd. 7-in. csg. 5,343 ft. T. Tr. Pk. 5,405 ft.; T. lower Marine form. 7,833 ft.; gas and dist. sd. 8,817-48 ft., hd. and tight; set 5-in. csg. 8,881 ft.; perf. 8,354-83 ft.; D.S.T. 8,354-83 ft.; ¼-in. cks. T.&B.; tstd. S.W. in 37 min.; no pr.; set retainer 8,326 ft. and sqzd.; drld. out and perf. 8,809-22 ft., 8,825-33 ft., and 8,845-58 ft.; swbd. S.G. and stain oil; reperf.

Oakes & Stendrup's No. 1 S. Lloyd, Sec. 10-20-5. R.U.

De Soto Parish

N. W. Hunter's No. 1 Anders-LeBlanc, C NW SE Sec. 5-11-14. Set 10-in. csg. 590 f.; D.ST. 1,954-74 ft.; rec. 150 ft. mud, 25 min.; S.S.O.; drlg. sh.&L. 4,566 ft.

Dewey Jaun's No. 1 Frost Lbr. Ind., 6,600 ft. S. & E. cor. SW Sec. 14-22-3e. S.D. 380 ft.

David Murray's No. 1 Russell, 50 ft. N, 500 ft. W, SE cor. NE NW Sec. 12-11-16. D.S.T. 2,725-36 ft.; rec. 1,000 ft. S.W. in 33 min.; cd. S.W. sd. 2,736-38 ft.; Set 450 ft. 4½-in. csg. 1,520 ft.; T.D. 2,812 ft.; P.B. 1,790 ft. and cmt 450 ft.; 4½-in. csg. 1,520 ft.; drld. out cmt. 1,840 ft. and perf. 1,580-90 ft.; rrng. acdz.

C. H. Tuttle No. 2-A Wemple, E NW cor. SW¼ Sec. 14-12n-11w. T. bkn. sd. 2,640 ft.; 6⅝-in. csg. 2,557 ft.; tstg. 2,699 ft.; C.O.

La Salle Parish

Georgetown Oil Co.'s No. 3 Baldridge, 660 ft. S, 650 ft. E, NW cor. NE NW Sec. 11-9-1e. Set 5½-in. csg. 1,503 ft.; T.D. 1,509 ft.; W.O.C.

H. L. Hunt and Ark. Fuel Oil Co.'s No. 1 Goodpine Lbr. Co., C NW NW Sec. 18-10n-3e. R.U.

Smith Bros.' No. 1 Kenney, 660 ft. S 150 ft. W, C Sec. 7-10-2e. T. sd. 1,517 ft.; set 8¼-in. csg. 1,517 ft.; T.D. 1,527 ft.; tstg. 1,527 ft.

Morehouse Parish

Union Prod. Co. No. 1-A Tensas-Delta, 1,894 ft. W, 1,584 ft. S, NE cor. SE Sec. 8-22-4. Set 20-in. csg. 125 ft.; 16-in. csg. 712 ft.; set 10¾-in. csg. 2,448 ft.; T. salt 8,114 ft.; drlg. sh. 9,898 ft.

Natchitoches Parish

Jack Lent et al's No. 1 Walker, C NE NE Sec. 9-10-10. 10-in. csg. 63 ft.; reported small S.O. 2,018 ft.; D.S.T. 2,007-18 ft.; rec. 32 jts. S.W.; S.D.

Sabine Parish

Ed Bailey's No. 1 Hale, 330 ft. NW cor. NE NW Sec. 6-7-12. S.D. for wtr. 1,228 ft.

John Derryberry et al's No. 1 Manton, 330 ft. NE cor. NW SW Sec. 34-7-13. R.U.

Hayner et al's No. 1 Sabine, 330 ft. N, 497 ft. W, SE cor. Sec. 13-7-12. Drlg. sh. 1,260 ft.

M. Lanza's No. 1 Phares, 330 ft. SE cor. NE SE Sec. 5-5-12. T.D. 2,508 ft.; S.D.; W.O.

N. B. Livingston's No. 1 Bowman Hicks, 660 ft. SE cor. SW Sec. 36-9-14. Set 10-in. csg. 110 ft.; drlg. ch. rk. 2,140 ft.

Major Oil Co.'s No. 1-B Sabine, 330 ft. NW cor. NW NE Sec. 8-7-13. R.U.

B. F. Phillips' No. 1 Blankenship, 330 ft. S, 202 ft. W, NE cor. SE NW Sec. 13-9-12. Drlg. sh. 675 ft.

A. C. Phillips' No. 1 Frost Lbr. Ind., 330 ft. NE cor. Sec. 34-10-13. Set 6-in. csg. 1,504 ft.; T.D. 1,515 ft.

W. L. Posey No. 1 Rivers, C NW NW Sec. 26-8-13. 6-in. csg. 2,147 ft.; T.D. 2,150 ft.; T. clk. 2,145 ft.; tstd. S.O. and acd. with 3,000 gal.; tstd. S.O. 2,515 ft.; dpnd. and tstg. 2,580 ft.

Relrue Oil Co.'s No. 1 Sabine, SE cor. NE SE Sec. 8-7-13. 6-in. csg. 2,061 ft.; T.D. 3,547 ft.; P.B. 2,350 ft.; tstg. small S.O.&wtr.; S.D.

Claude H. Smith's No. 1 Whitney Corp., 330 ft. N and E, C Sec. 24-10-14. Set 10-in. csg. 42 ft.; drlg. 60 ft.

J. E. Stack's No. 1 Weber, 330 ft. SE cor. SW NE Sec. 8-7-13. Set 10-in. csg. 42 ft.; W.O.C.

Sutton-Zwolle Oil Co.'s No. 3 Sabine, 1,650 ft. S, 660 ft. E, NW cor. NE Sec 23-7-14. S.D.

Lee Whitehurst's No. 1 Summers, 1,210 ft. N, 440 ft. W, SE cor. NE Sec. 14-7-13. Rng. csg. 2,045 ft.

Union Parish

Interstate Nat. Gas Co.'s No. 96 fee, Sec 26-22-3. Set 12½-in. csg. 180 ft.; set 6-in. csg. 2,117 ft.

Memphis Nat. Gas Co.'s No. 5 Frost Lbr. Ind., Sec. 11-22-3. R.U.

Southern Carbon Co.'s No. 34 Grayling, Sec. 19-22-4. 8-in. csg. 742 ft.; drlg. sh. 2,052 ft.

United Carbon Co.'s No. 1 McKinney, Sec. 14-22-3. Set 6-in. csg. 2,108 ft.; W.O.C.

United Carbon Co.'s No. 1 Reppond, Sec 14-22-3. Set 8-in. csg. 745 ft.; set 6-in. csg. 2,098 ft.; W.O.C.

We Hope Gas & Oil Co.'s No. 8 Frost Lbr. Ind., Sec. 23-22-3. Set 8-in. csg. 762 ft.

H. L. Woods, Tr.'s No. 2 Union Power, Sec. 29-21-3. R.U.

Webster Parish

Hassie Hunt's No. 2 Coyle, C SW SE Sec. 22-21-10. R.U.

Hassie Hunt's No. 1 Holloway-Davis, 560 ft. N, 660 ft. W, C Sec. 23-21-10. Drlg. sh.&L. 4,462 ft.

Hunt Oil Co.'s No. 3 Stewart, C NE NW Sec. 29-21-10. Drlg. sdy. sh. 7,775 ft.

Hunt Oil Co.'s No. 4 Stewart, 480 ft. S, 835 ft. E, NW cor. SW Sec. 32-21-10. Drlg. sdy. sh. 7,595 ft.

Oliphant Oil Co.'s No. 2 Banks, 410 ft. S. 660 ft. E, NW cor. Sec. 2-20-10. Set 9⅝-in. csg. 5,611 ft.; T.C.V. 8,073 ft.; D. sd. 8,480-8,508 ft. (oil); 7-in. csg. 8,562 ft.; perf.; completing; T.D. 8,568 ft.

Quad Oil Corp.'s No. 2 Bodcaw, Sec. 15-21-10. O.W.D.D.; O.T.D. 4,732 ft.; set whpstk. 4,378 ft.; T. Hillwy. sd. 5,755 ft.; cg. 5,763 ft.

Stanolind O. & G. Co.'s No. 4 Pardee, 660 ft. SE cor. Sec. 25-21-10. T. Tr. Pk. 5,829 ft.; 9⅝-in. csg. 5,950 ft.; drlg. 5,829 ft.; 9⅝-in. csg. 5,950 ft.; 9⅝-in. csg. 5,863 ft.; hole off 4°. whpstk. 6,989 ft.; set 2nd whpstk. 7,258 ft.; drlg. sdy. sh. 7,878 ft.

Woodley Pet. Co.'s No. 2 Couch, 810 ft. S, 510 ft. W, NE cor. SW Sec. 35-21-10. 13⅜-in. csg. 683 ft.; set 9⅝-in. csg. 5,775 ft.; drlg. 8,435 ft.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co. No. 1 David Meaux, Sec. 9-12s-3e. T.D. 11,359 ft.; T. gas sd. 11,318 ft.; D.S. stk.; P.B. and sidetracked; drlg. sh. 9,354 ft.

Continental Oil Co. No. 1 Francioi, Sec. 67-12s-3e. Drk.

Continental Oil Co.'s No. 1 Motty, Sec. 18-12s-3e. Drlg. sh. 2,930 ft.

Anse La Butte—St. Martin Parish

Glassell & Glassell's No. 1 Breauy, Sec. 117-9s-5e. R.U.

Bancroft—Beauregard Parish

Republic Prod. Co.'s No. 12 Columbia Ld. & Tmbr. Co., Sec. 15-6s-13w. Drlg. sd.&sh. 5,260 ft.

Republic Prod. Co.'s No. 1 Franks, Sec. 15-6s-13w. T.D. 7,320 ft.; W.O.C.

Republic Prod. Co.'s No. 4 Lutcher Moore, Sec. 16-6s-13w. Spd.

Republic Prod. Co.'s No. 1 J. A. Whitman, Sec. 15-6s-13w. T.D. 7,323 ft.; 5½-in. csg. 7,316 ft.; I.P. 195 bbl. in 17 hrs.; ¾-in. ck.

Republic Prod. Co.'s No. 3 L. Whitman, Sec. 15-6s-13w. T.D. 7,662 ft.; 5½-in. csg. 7,662 ft.; I.P. 220 B.P.D.; ¾-in. ck.

Bateman Lake—St. Mary Parish

W. V. Bowles et al's No. 2 University Hills, Sec. 68-7s-1w. Drlg. sh. 2,800 ft.

Lisbon-Iberia Oil Co.'s No. 2-A College Town Community, Sec. 68-7s-1w. Drlg. sh. 1,780 ft.

Lisbon-Iberia Oil Co.'s No. 2 University Hills, Sec. 68-7s-1w. Drlg. sh. 1,500 ft.

Texas Co. No. 1 St. Mary Parish Sch. Bd., Sec. 16-16s-12e. Gas sd. 11,169-79 ft.; cd. sd. dist. cut 11,516-19 ft.; T.D. 11,589 ft.; 7-in. csg. 11,579 ft.; perf. csg. 10,663-83 ft.; I.P. 60 bbl. dist. per day; 10/64-in. ck.

Texas Co.'s No. 3 State, Sec. 16s-12e. Loc.

Texas Co.'s No. 3 Way Bayou, Sec. 21 16s-12e. Loc.

Baton Rouge—East Baton Rouge Parish

Guaranty Oil Co. No. 2 Morgan, Sec. 85-7s-1w. T.D. 6,530 ft.; 5¼-in. csg. 6,450 ft.; swbd. S.W.; S.D.

Wm. Helis' No. 6 Nelson, Sec. 36-7s-1w. 10¾-in. csg. 2,060 ft.; T.D. 6,475 ft.; T. sd. 6,467 ft.

T. G. Markley et al's No. 2 Knox Amiss, Sec. 67-7s-1w. T.D. 6,486 ft.; 7-in. 6,476 ft.; I.P. 240 B.P.D.; 5/32-in. ck.

Bay St. Elaine—Terrebonne Parish

Texas Co.'s No. 3 L.L.&E., Sec. 18-22s-18e. Loc.

Bayou Blue—Iberville Parish

Superior Oil Co.'s No. 1 Schwing Lbr. Co., Sec. 74-9s-10e. Bldg. rd.

Bayou Choctaw—Iberville Parish

Standard Oil Co. of La.'s No. 12 Wilbert, Sec. 53-9s-11e. Drlg. sh. 1,812 ft.

Bayou Des Allemand—La Fourche Parish

Amerada Pet. Corp.'s No. 3 Gheens, Sec. 56-15s-20e. Spd.

Bayou des Glaise—Iberville Parish

Humble O. & R. Co. No. 1-B Wilbert, Sec. 78-8s-8e. T.D. 3,025 ft.; 13⅜-in. csg. 3,000 ft.; T. salt 4,101 ft.; T.D. 4,182 ft.; S.D.; abd.

Humble O. & R. Co.'s No. 2-B Wilberts, Sec. 78-8s-8e. Driving piling.

Black Bayou—Cameron Parish

Shell Oil Co., Inc.'s No. 43 Watkins, Sec. 7-12s-12w. T.D. 4,057 ft.

Caillou Island—Terrebonne Parish

Texas Co.'s No. 12 State, Sec. 20-23s-20e. T.D. 4,982 ft.; sdtrkd.; T. salt 6,228 ft.; T.D. 6,236 ft.; P.B. 5,006 ft.; sdtrk.; T.D. 5,195 ft.; fsg.

Chacahoula—La Fourche Parish

Sun Oil Co. No. 1 Cypress, Sec. 75-15s-15e. 13⅜-in. csg. 1,842 ft.; T. salt 6,072 ft.; T.D. 6,088 ft.; P.B. 2,100 ft.; sdtrkd.; T.D. 6,553 ft.; fsg.; sdtrkd.; T.D. 5,544 ft.; P.B. to sdtrk.; drlg. sh. &L. 4,761 ft.

Sun Oil Co.'s No. 6 Dibert, Stark & Brown, Sec. 70-15s-15e. Drlg. L.&sh. 3,846 ft.

Sun Oil Co. No. 2 Dodge Sunberry, Sec. 65-15s-15e. S.D. 4,259 ft.; T.A.

Chalkley Field—Cameron Parish

Humble O. & R. Co.'s No. 1 Cameron Sch. Bd., Sec. 16-12s-6w. Loc.

Humble O. & R. Co.'s No. 5 K. B. Hanzen, Sec. 9-12s-6w. T.D. 8,651 ft.; run 7-in. csg.

Humble O. & R. Co.'s No. 6 Sweet Lake Ld. & O. Co., Sec. 8-12s-6w. Loc.

Shell Oil Co., Inc.'s No. 5 Hanzen, Sec. 21-12s-6w. Cg. sh. 8,693 ft.

Charenton—St. Mary Parish

Pan American Prod. Co.'s No. 17 Laws Realty Co., Sec. 31-13s-10e. T.D. 7,208 ft.; 5½-in. csg. 7,208 ft.; perf. csg. 7,160-64 ft.

Pan American Prod. Co.'s No. 6 South Coast Corp., Sec. 31-13s-10e. T.D. 7,189 ft.; 5½-in. csg. 7,182 ft.; I.P. 25 B.P.D.; ¼-in. ck.

Cheneyville—Rapides Parish

Amerada Pet. Corp.'s No. 7 Weil Co., Sec. 54-1s-2e. T. sd. 5,710 ft.; T.D. 5,814 ft.; 5½-in. csg. 5,814 ft.; perf. csg. 5,710-32 ft.; I.P. 261 B.P.D.; ¾-in. ck.

S. W. Richardson's No. 6 Weil, Sec. 53-1s-2e. T.D. 5,800 ft.; 5½-in. csg. 5,798 ft.

S. W. Richardson's No. 7 Weil, Sec. 53-1s-2e. Loc.

Creole—Cameron Parish

Superior Oil Co.'s No. 9 State, Gulf of Mex., Twp. 15s-8w. T.D. 5,589 ft.; sidetracked; 7-in. csg. 6,949 ft.; prep. to test.

Darrow—Ascension Parish

Humble O. & R. Co.'s No. 17 Gumbel, Sec. 36-10s-2e. Drlg. sh. 2,412 ft.

Kiva Oil Co. No. 1 Duplessis, Sec. 69-10s-2w. S.D. 2,523 ft.

Dog Lake—Terrebonne Parish

Texas Co.'s No. 10 State, Sec. 1-22s-15e. Loc.

Texas Co. No. 23 State, Sec. 5-22s-16e. T.D. 7,429 ft.; P.B.; sdtrkd.; T.D. 6,105 ft.; P.B.; sdtrkd.; T.D. 7,429 ft.; 7-in. csg. 6,871 ft.; T.D. 7,031 ft.; P.B.

6,865 ft.; perf. csg. 6,840-64 ft.; tstg.

Edgerly—Calcasieu Parish

Sutton-Burton Joint Acct.'s No. 1 J. H. Embry, Sec. 29-9s-11w. Drlg. sh. 4,505 ft.

Eola—Avoyelles Parish

Amerada Pet. Corp.'s No. 1 Avoyelles Bnk., Sec. 5-2s-3e. T.D. 8,580 ft.; 5½-in. csg. 8,579 ft.

Amerada Pet. Corp.'s No. 1 L. B. Dent, Sec. 10-2s-2e. Drlg. sh.&L. 5,620 ft.

Amerada Pet. Corp.'s No. 5 Glaze, Sec. 6-2s-3e. Drlg. sh. 7,830 ft.

Amerada Pet. Corp.'s No. 3 Irion, Sec. 6-2s-3e. R.U.

Amerada Pet. Corp.'s No. 7 Marchive, Sec. 6-2s-3e. T.D. 8,559 ft.; 5½-in. csg. 8,558 ft.; perf. csg. 8,413-8,523 ft.; I.P. 732 B.P.D.; ¼-in. ck.

Amerada Pet. Corp.'s No. 9 Marchive, Sec. 6-2s-3e. Drlg. sd.&sh. 1,510 ft.

W. C. Feazel et al's No. 1 R. Z. Sciater, Sec. 1-2s-2e. Drlg. sh. 8,040 ft.

G. W. Kenedy's No. 1 R. R. Irion, Sec. 1-2s-2e. T.D. 8,145 ft.; fsg.

S. W. Richardson's No. 7 Haas Inv. Co., Sec. 7-2s-3e. T.D. 8,520 ft.; 5½-in. csg. 8,599 ft.; perf. csg. 8,464-8,522 ft.; I.P. 314 B.P.D.; ¼-in. ck.

S. W. Richardson's No. 9 Haas Inv. Co., Sec. 7-2s-3e. R.U.

Sun Oil Co.'s No. 2 Townsend, Sec. 8-2s-3e. Drlg. sh.&L. 7,545 ft.

Fausse Point—Iberia Parish

Texas Co.'s No. 6 State, Twp. 11s-8e. 13⅜-in. csg. 1,407 ft.; T. salt 5,408 ft., T.D. 5,415 ft.; 7-in. csg. 5,314 ft.; perf. csg. 4,985-5,000 ft.; tstd. S.W.; S.D.

Golden Meadow—La Fourche Parish

Texas Co.'s No. 38 State, Sec. 38-23s-33e. Drlg. sdy. sh. 4,283 ft.

Texas Co.'s No. 39 State, Sec. 38-23s-33e. Drlg. sdy. sh. 6,012 ft.

Bateman Drlg. Co.'s No. 1 Harry Lou viere, Sec. 9-19s-22e. T.D. 5,560 ft.; 5½-in. csg. 5,260 ft.

Bennett Oil Co.'s No. 3 Cheramie, Sec. 12-19s-22e. T.D. 6,667 ft.; abd.

Berkshire Oil Co.'s No. 8 Nicol, Sec. 9-19s-22e. T.D. 5,210 ft.; perf. csg. 5,169-75 ft.

Berkshire Oil Co.'s No. 10 Nicol, Sec. 9-19s-22e. T.D. 2,660 ft.; 7-in. csg. 2,660 ft.

Brown & Woods' No. 1 S. Hogan, Sec. 9-19s-22e. T.D. 2,710 ft.; P.B. to 1,500 ft.; sdtrkd.; T.D. 2,672 ft.; 7-in. csg. on bttm.; perf. csg. 2,655-64 ft.; would not flow; pull screen; S.D.

Peter Cioban's No 1 Nat Alario, Sec. 2-19s-22e. Drlg. sh. 2,622 ft.

Taylor Fithian's No. 1 Cheramie, Sec. 12-19s-22e. Drlg.

Taylor Fithian's No. 1 Orgeron, Sec. 2-19s-22e. 10¾-in. csg. 103 ft.; T.D. 2,792 ft.; 5½-in. csg. 2,680 ft.; perf. csg. 2,640-48 ft.

Golden Meadows Oil Co.'s No. 1 Whitney Rebstock, Sec. 2-19s-22e. R.U.

Wm. Helis' No. 3 Gaspard, Sec. 9-19s-22e. T.D. 2,664 ft.; 6-in. csg. 2,655 ft. would not flow.

Jim McMurrey's No. 1 P. Collins, Sec. 12-19s-22e. Drlg. sdy. sh. 4,150 ft.

Martex Oil Co.'s No. 1 Rebstock, Sec. 2-19s-22e. Loc. abd.

M. H. Marr & Vaughn's No. 2 Adam Terrebonne, Sec. 9-19s-22e. T.D. 8,945 ft.; 7-in. csg. 8,945 ft.; perf. csg. 7,900-30 ft.

S. Rhodes Drlg. Co.'s No. 1 Falgout Holding Co., Sec. 12-19s-22e. T.D. 5,498 ft.; 7-in. csg. 5,498 ft.; perf. csg. 5,169-90 ft.; I.P. 162 B.P.D.; ⅛-in. ck.

S. Rhodes' No. 2 Falgout Holding, Sec. 12-19s-22e. Drlg.

Terouche Oil Co.'s No. 2 Cheramie, Sec. 12-19s-22e. Drlg.

Texas Co.'s No. 4 Falgout Holding Co. Sec. 9-19s-22e. Drlg. sh.&shls. 4,208 ft.

Texas Co.'s No. 6 Falgout Holding, Sec. 9-19s-22e. Drlg. sd.&sh. 2,312 ft.

Texas Co.'s No. 3 La Terre Co., Sec. 1-20s-21e. Drlg.

Texas Co.'s No. 4 L.L.&E., Golden Meadow, Sec. 78-19s-22e. T.D. 5,370 ft.; 7-in. csg. 5,370 ft.; perf. csg. 5,318-30 ft.; would not flow; pull screen.

Texas Co.'s No. 6 L.L.&E.-Golden Meadows, Sec. 78-19s-21e. 10¾-in. csg. 573 ft.; T.D. 5,436 ft.; 7-in. csg. 5,374 ft.; perf. csg. 5,304-22 ft.; swab. dry.; re-perf. csg. 5,305-23 ft.; tstg.

Texas Co. No. 3 State-Catfish Lake, Sec. 76-19s-21e. T.D. 3,508 ft.; 7-in. csg. 2,805 ft.; perf. csg. 2,740-62 ft.; pumped dry; S.D.

Texas Co.'s No. 5 State-Catfish, Sec. 3-20s-21e. T.D. 3,500 ft.; 7⅝-in. csg. 2,760 ft.

Grand Bay—Plaquemines Parish

Gulf Oil Corp.'s No. 5-A Grand Prairie, Sec. 31-19s-19e. T.D. 8,085 ft.; 9⅝-in. csg. 8,070 ft.; flwd. dist.; killed well; fsg. for tbg.

Gulf Oil Corp. No. 6-A Grand Prairie Lv. Dist., Sec. 17-20s-10e. T.D. 10,453 ft.; fsg.

Gulf Oil Corp.'s No. 7-A Grand Prairie Lv. Dist., Sec. 5-20s-19e. Loc.

Gulf Oil Corp.'s No. 8-A Grand Prairie Dist., Sec. 5-20s-19e. Loc.

Gulf Oil Corp.'s No. 4 State, Sec. 20-19s-19e. Loc.

Texas Co. No. 1 State-Lookout Pass, Sec. 48-20s-18e. Loc.

Grand Lake—Cameron Parish

Amerada Pet. Corp.'s No. 2 Mallard Bay, Twp. 15s-4w. 10¾-in. csg. 1,317 ft.; T.D. 8,350 ft.; W.O.C.

Superior Oil Co.'s No. 5 State, Twp. 13s-4w. Drlg. sh. 6,460 ft.

Hackberry—Cameron Parish

Gulf Oil Corp. No. 25-A Erwin, Sec. 18-12s-10w. Drlg.

Gulf Oil Corp.'s No. 29-B Gulf Ld., Sec. 14-12s-10w. Drlg. sh. 3,370 ft.

Stanolind O. & G. Co.'s No. 20 Cameron Par. Sch. Ld., Sec. 16-12s-10w. T.D. 6,273 ft.

Stanolind O. & G. Co.'s No. 29-B Gulf Ld., Sec. 14-12s-10w. Drlg. sh. 4,412 ft.

Stanolind O. & G. Co.'s No. 30-B Gulf Ld., Sec. 31-12s-10w. T.D. 7,225 ft.; P. B. 4,800 ft.; sdtrkd.; drlg. sh. 6,820 ft.

Superior Oil Co.'s No. 8 Benson-Vincent, Sec. 30-12s-10w. Drlg. sh. 5,930 ft.

Texas Co.'s No. 29-B State, Twp. 12s-9w. R.U.

Union Sulphur Co.'s No. 2 Doiron, Sec. 37-12s-10w. Drlg. sh. 3,020 ft.

Union Sulphur Co.'s No. 1 Simon Doiron Sec. 37-12s-10w. T.D. 7,274 ft.; 7-in. csg. 7,274 ft.; I.P. 738 B.P.D.; ¼-in. ck.

Horseshoe Bayou—St. Mary Parish

Texas Co.'s No. 3 State, Sec. 40-17s-9e T. sd. 11,311 ft.; drlg. sd.&sh. 11,856 ft.

Jeanerette—St. Mary Parish

Herton Oil Co.'s No. 6 Roane, Sec. 36 13s-9e. Drlg. sh. 10,566 ft.

Jefferson Island—Iberia Parish

Texas Co.'s No. 4 Jefferson Island Salt, Sec. 58-12s-5e. Drlg. sdy. sh. 1,930 ft.

Texas Co.'s No. 3 State, Twp. 12s-5e. R.U.

Jennings—Acadia Parish

Glassell-Glassell No. 8 Trusher, Sec. 42 9s-2w. T.D. 9,085 ft.; drill stem stuck. P.B. to sdtrk.

Gulf Oil Corp.'s No. 42 Arnaudet, Sec. 47-9s-2w. Drlg. sh. 5,520 ft.

Port City Oil Co.'s No. 25 Synd., Sec. 41-9s-2w. T.D. 3,000 ft.; 7-in. csg. 2,960 ft.

Shell Oil Co., Inc.'s No. 8 Community. Cg. sdy. sh. 7,244 ft.

Stanolind O. & G. Co.'s No. 116 Crowley O. & M. Co., Sec. 48-9s-2w. Drlg. sh. &L. 4,715 ft.

Lafitte—Jefferson Parish

Texas Co.'s No. 12 Rigolets Cooperative Fur Co., Sec. 28-17s-24e. Loc.

Texas Co. No. 14 Lafitte, Sec. 20-17s-24e T.D. 4,599 ft.; P.B. 3,404 ft.; sdtrkd.; drlg. sh. 8,620 ft.

Texas Co.'s No. 5 Madison Realty Co., Sec. 17-17s-24e. 10¾-in. csg. 1,876 ft. drlg. sh. 5,212 ft.

Texas Co.'s No. 4 Marrero, Sec. 21-17s-24e. Drlg. 9,212 ft.

Lake Long—La Fourche Parish

Fohs Oil Co.'s No. 11 State, Twp. 17s-19e. 10¾-in. csg. 2,034 ft.; T.D. 10,197 ft.; 7-in. csg. 9,865 ft.; perf. csg. 9,012-26 ft.; D.S.T. showed 2,000 lb. press.; pulling tool.

Lake Pelto—Terrebonne Parish

Texas Co.'s No. 28 State, Sec. 7-23s-18e. T.D. 5,752 ft., salt; P.B. to sdtrk.; cg. sdy. sh. 4,916 ft.

La Pice—St. James Parish

Shell Oil Co., Inc.'s No. 1 Lebermuth & Israel. Cg. sh. 10,621 ft.

Leeville—Plaquemines Parish

Texas Co.'s No. 72 L.L.&E., Sec. 27-21s-22e. T.D. 5,041 ft.; sdtrkd.; T. salt 6,854 ft.; T.D. 6,866 ft.; 7-in. csg. 6,822 ft.; perf. csg. 6,735-75 ft.; tstd. oil and S.W.; perf. csg. 6,110-75 ft.; rec. S.W.; perf. csg. 6,785-6,827 ft.; pull tool.

New Iberia—Iberia Parish

Wm. Helis' No. 10 Bolivar, Sec. 56-12s-7e. T.D. 3,538 ft.; S.D.

Wm. Helis' No. 7 Sabatier, Sec. 54-12s-7e. 7-in. csg. 2,205 ft.; T.D. 3,090 ft.; P.B. 2,995 ft.; 5½-in. csg. 3,010 ft.; perf. csg. 2,872-82 ft.; pull screen.

Wm. Helis No. 7 J. E. Schwing, Sec. 12s-7e. T.D. 8,850 ft.; P.B. 7,840 ft.; T.D. 8,850 ft.; P.B. 8,025 ft.; went back into old hole; P.B. and sdtrk.; T.D. 7,443 ft.; D.S. stk.; fsg.

Texas Co. No. 2 Bryant, Sec. 25-12s-7e R.U.

Texas Co.'s No. 13 Duke, Sec. 26-12s-7e Drlg. sdy. sh. 2,720 ft.

Texas Co.'s No. 1 Polk Hebert, Sec. 25-12s-7e. Drlg. sh. 7,866 ft.

Texas Co.'s No. 3 Schwing, Sec. 71-12s-7e. Drlg. sh. 9,240 ft.

Texas Co.'s No. 1 H. Perry Walet, Sec. 2-12s-7e. Drlg. sh.&L. 4,560 ft.

North Crowley—Acadia Parish

Humble O. & R. Co.'s No. 6 Ohlenforst. Sec. 34-8s-1e. Loc.

Humble O. & R. Co.'s No. 2 Thevis, Sec. 34-8s-1e. Drlg. sh. 8,486 ft.

North Elton—Allen Parish

Stanolind O. & G. Co.'s No. 1 G. W. Jenkins, Sec. 23-6s-3w. T.D. 7,760 ft.; perf. csg. 7,422-30 ft.; flwg. gas and dist.

Paradis—St. Charles Parish

Texas Co. No. 2 L.L.&E. Paradis Sec. 6-14s-20e. Cd. sd., dist. odor 10,085-95 ft.; 7-in. csg. 10,497 ft.; T.D. 11,170 ft.; perf. csg. 10,295-10,340 ft.; I.P. 1,710 B.P.D.; ⅝-in. ck.; T.P. 1,480 lb.

Perkins—Calcasieu Parish

Humble O. & R. Co.'s No. 3 Edgewood Ld. & Lgng. Co., Sec. 5-8s-10w. Drlg. sh. 3,967 ft.

Plumb Bob—St. Martin Parish

Texas Co.'s No. 13 St. Martin Ld. Co., Sec. 21-8s-7e. Dredge canal.

Port Barre—St. Landry Parish

Gulf Oil Corp.'s No. 17 Wilson-Broach. Sec 4-6s-5e. T.D. 4,861 ft.; P.B. 2,061 ft.

McDannald Oil Co.'s No. 2 Tutral, Sec. 20-6s-5e. Bldg. rd.

Pan American Prod. Co.'s No. 5 Garland, Sec. 4-6s-5e. T.D. 5,086 ft.; 5½-in. csg. 5,064 ft.; flwd. oil and S.W.; killed.

Y. D. Spill No. 1 Gaudet, Sec. 4-6s-5e S.D. 4,700 ft.

Westgate-Greenland Oil Co.'s No. 1 Jeansenne, Sec. 20-6s-5e. Drlg. sh.& shls. 3,930 ft.

Potash—Plaquemines Parish

Humble O. & R. Co.'s No. 41 Orleans, Sec. 14-18s-15e. T.D. 4,430 ft.; fsg.

Quarantine Bay—Plaquemines Parish

Gulf Oil Corp.'s No. 3-A Plaquemines Ld. Co., Sec. 7-19s-17e. T.D. 8,178 ft.; 7-in. csg. 8,178 ft.

Gulf Oil Corp. No. 9 State QQ, Sec. 18-19s-17e. Loc.

Gulf Oil Corp.'s No. 14 State, Sec. 7-19s-17e. Drlg. sh. 6,203 ft.

Sorrento—Ascension Parish

Sorrento Synd. No. 1 L. L. Bernard Sec. 27-10s-4e. S.D. 8,004 ft.; P.B. to sdtrk.

South Houma—Terrebonne Parish

Shell Oil Co., Inc.'s No. 4 Peters, Sec 72-18s-18e. Cg. sh. 10,956 ft.

South Jennings—Jeff Davis Parish

Stanolind O. & G. Co.'s No. 1 Doherty, Sec. 15-10s-3w. 7-in. csg. 9,573 ft.; T.D. 9,700 ft.; prep. to test.

Starks—Calcasieu Parish

W. T. Burton's No. 1 Industrial Lbr. Co., Sec. 29-9s-1w. T.D. 7,200 ft.; well tried to blow out.

Valentine—La Fourche Parish

Wm. Helis' No. 5 Valentine Sugars, Inc., Sec. 2-17s-20e. 10¾-in. csg. 1,632 ft.; T.D. 7,845 ft.; P.B. 6,965 ft.; 7-in. csg. 6,990 ft.; tstd. oil&S.W.; made sqz. job; would not flow.

Pan American Prod. Co.'s No. 3-A Community, Sec. 10-17s-20e. Drlg. sh. 10,293 ft.

Venice—Plaquemines Parish

Tide Water Asso. Oil Co.'s No. 6 Buras Lv. Bd., Sec. 35-21s-30e. Driv. piling.

Tide Water Asso. Oil Co.'s No. 6 Buras Lv. Bd., Sec. 27-21s-30e. T.D. 10,475 ft.; 7-in. csg. 10,711 ft.

Villa Platte—Evangeline Parish

Continental Oil Co.'s No. 2 Attales, Sec. 45-3s-2e. T.D. 3,980 ft.; tstg.

Continental Oil Co.'s No. 2 Deshotels, Sec. 44-3s-2e. Drlg. sh. 6,830 ft.

Continental Oil Co.'s No. 4 Hattie Haas, Sec. 44-3s-2e. Drlg. sh.&L. 7,820 ft.

Continental Oil Co.'s No. 4 Martha Haas, Sec. 44-3s-2e. Drlg. sh. 8,436 ft.

Continental Oil Co.'s No. 2 Phillip Fontenot, Sec. 44-3s-2e. T.D. 9,084 ft.; tstg.

Continental Oil Co.'s No. 2 W. L. Tate, Sec. 40-4s-2e. Drlg. L. 7,220 ft.

Continental Oil Co.'s No. 1 T. E. Vidrine, Sec. 48-3s-2e. Drlg. sh. 5,920 ft.

Danciger O. & R. Co.'s No. 1 J. E. Vidrine, Sec. 1-4s-2e. R.U.

West Gueydan—Vermilion Parish

Magnolia Pet. Co.'s No. 1 Zwan, Sec. 6-12s-2w. T.D. 7,345 ft.; abd.

West Lake Verret—St. Mary Parish

Shell Oil Co.. Inc.'s No. 4 Jeanerette T.D. 6,919 ft.; tstd. 600 lb. W.P. on D.S.T. 6,911-19 ft.

White Castle—Iberville Parish

Shell Oil Co., Inc.'s No. 15 Wilbert. T.D. 1,573 ft.; run surf. csg.

Woodlawn—Jeff Davis Parish

Union Sulphur Co. No. 1 Raymond Hebert, Sec. 6-9s-5w. T.D. 10,194 ft.; P.B. 9,300 ft.

Union Sulphur Co.'s No. 1 E. A. Norton, Sec. 12-9s-5w. Drlg. sh.&L. 9,385 ft.

Union Sulphur Co. No. 3 Mrs. O'Miller Sec. 7-9s-5w. T.D. 8,867 ft.; 7-in. csg. 8,867 ft.; perf. csg. 8,863-66 ft.; I.P. 930 B.P.D.; ¾-in. ck.

Woodlawn Oil Corp.'s No. 1 Hebert, Sec. 1-9s-6w. T.D. 9,543 ft.; W.O.C.

S. LOUISIANA WILDCATS

Acadia Parish

Tri Parish Drillers, Inc., No. 1 Paul Stag, Sec. 4-7s-1w. M.I. rig.

Allen Parish

Housh & Thompson's No. 1 Ind. Lbr. Co., Sec. 1-4s-5w. 10¾-in. csg. 1,600 ft.; drlg. plug.

Assumption Parish

Shell Oil Co., Inc.'s No. 1 C. S. Eellis, Sec. 9-16s-14e. Cg. sh. 9,584 ft.

Avoyelles Parish

Joe F. Belt's No. 1 Thompson & Katz, Sec. 23-2n-5e. R.U.

Beauregard Parish

Atlantic Ref. Co. No. 1 Lutcher Moore, Sec. 22-3s-11w. Loc.

Atlantic Ref. Co. No. 1 Rice Ld. & Lbr. Co., Sec. 22-3s-11w. Loc.

California Co.'s No. 2 Long Bell Lbr. Co., Sec. 12-5s-10w. T.D. 10,055 ft.; 7-in. csg. 6,000 ft.; drlg. ahead.

Republic Prod. Co.'s No. 9 Lutcher Moore Lbr. Co., Sec. 1-7s-12w. T.D. 9,145 ft.; abd.

Calcasieu Parish

C. L. Arnette's No. 1 Arthur Welch, Sec. 19-10s-12w. 10¾-in. csg. 130 ft.; T.D. 395 ft.; S.D.

Cameron Parish

Phillips Pet. Co.'s No. 1 Miami Corp., Sec. 11-14s-6w. Drlg. sh. 1,520 ft.

East Baton Rouge Parish

H. J. Bluford's No. 1 Balter-Ratcliff, Sec. 45-4s-1e. Drlg. sh. 3,600 ft.

Farris & Golding Drlg. Co.'s No. 1 D. E. McEnnis, Sec. 58-7s-1e. 20-in. csg. 42 ft.; 10¾-in. csg. 1,747 ft.; T.D. 7,501 ft.; abd.

Iberia Parish

Plymouth Oil Co. et al's No. 1 Lynch McHugh, Sec. 13-12s-10e. 10¾-in. csg. 2,519 ft.; drlg. sh. 6,608 ft.

Jefferson Parish

Continental Oil Co No. 1 Bernstein, Sec. 2-16s-23e. T.D. 12,149 ft.; abd.

La Fourche Parish

Tide Water Asso. Oil Co. No. 1 Delta Farms, Inc., Sec. 6-17s-23e. Drlg. sh. &L. 10,932 ft.

Orleans Parish

W. T. Burton No. 1 L.&N.R.R., Sec. 18-11s-15e. T.D. 10,394 ft.; 5½-in. csg. 10,274 ft.; S.D.

Plaquemines Parish

Gulf Oil Corp.'s No. 1-D Buras Lv. Dist., Sec. 6-23s-31e. Drlg. sdy. sh. 3,990 ft.

Rapides Parish

Gulf States Expl. Co.'s No. 1 Dunnam & Robinson, Sec. 69-4n-3w. Drlg. sh. 301 ft.

Rantex Pet. Corp.'s No. 1 Mathews, Sec. 6-1n-1e. Spd.

Smith & Aarnes' No. 1 Eota Realty Co., Sec. 12-4n-3e. Drlg.

St. Bernard Parish

Gulf Ref. Co. No. 4-State-R.R. (Lake Borgne), Twp. 12s-15e. 9⅝-in. csg. 8,161 ft.; T.D. 10,632 ft.; P.B. 9,700 ft.; rmd. to 9,658 ft.; lost core bbl.; P.B. sdtrkd. 8,912 ft.; T.D. 10,528 ft.; 7-in. csg. 10,494 ft.; hole cleaned, wash to bottom.

St. Martin Parish

Wm. Helis' No. 2 Levert Plantation, Sec. 33-9s-7e. Drlg. sh. 7,905 ft.

Wm. Helis' No. 1 Rycade Oil Co., Sec. 33-9s-7e. Drlg. sdy. sh. 8,807 ft.

St. Mary Parish

Perry S. Cooney No. 1 A. W. Allain, Sec. 46-13s-9e. S.D. 2,600 ft.

Texas Co.'s No. 1 State West Cote Blanche Bay, Twp. 16s-7e. Loc.

Terrebonne Parish

Barnsdall Oil Co.'s No. 1 Nelson, Sec. 2-21s-11e. 10¾-in. csg. 2,767 ft.

Continental Oil Co. et al's No. 1 Peters, Sec. 32-19s-15e. 13⅜-in. csg. 1,987 ft.; drlg. sh.&shls. 10,246 ft.

Vermilion Parish

La. Ld. & Explo. Co.'s No. 3 La. Fur Co., Sec. 9-15s-1e. T.D. 8,900 ft.

Texas Co.'s No. 1 Vermilion Par. Sch. Bd., Sec. 16-13s-4e. Drlg. sh. 9,012 ft.

ARKANSAS

Clark County

Coker Oil Corp.'s No. 3 H. H. and H. C. Cabe, 330 ft. SW cor. NW NE Sec. 8-10-20. 6-in. csg. 300 ft.; T.D. 308 ft., fresh-wtr. sd.; W.O.

W. S. King's No. 1 N. Ross, 640 ft. S. 21. T.D. (cor.) 1,855 ft.; ran Schlumberger; W.O.

W. P. Wilson's No. 1 Hamilton & Mathews, C W½ NE NE Sec. 31-10s-20w Run 10-in. csg. 41 ft.; T. Nac. 358 ft.; S.S.O.; reported S.O.&G. 437 ft.; S.D 1,650 ft.; W.O.

Columbia County

Arkansas Fuel Oil Co.'s No. 2-B King, C SE NW Sec. 21-17-20. 9⅝-in. csg. 2,198 ft.; drlg. sh. 3,075 ft.

Atlantic Ref. Co.'s No. 1-B Pine Woods Lbr. Co., C SE NW Sec. 16-18-22. T. Ctn. Vly. 6,490 ft.; drlg. 7,478 ft.

Gulf Ref. Co.'s No. 1 Lewis, C SW NE Sec. 12-18-23. Drlg. 2,996 ft.

Hunt Oil Co.'s No. 1 McWilliams, C NW NW Sec. 15-18-19. Drlg. rd. sdy. sh. 7,340 ft.

Lion Oil Ref. Co.'s No. 1 Warnock est., C NW NW Sec. 15-18-22. T. Cotton Vly. 6,407 ft.; T. por. L. 8,800 ft.; cg. 8,836 ft.

J. K. Mahoney's No. 1 E. Riley, C NW NE Sec. 14-18-19. Reported S.O. 6,400-10 ft.; drlg. rd. sdy. sh. 7,039 ft.

Phillips Pet. Co.'s No. 1 Joiner unit, C SW NE Sec. 22-17-20. Drlg. 1,078 ft.

Placid Oil Co.'s No. 1 Boothe Unit, C NE SE Sec. 10-17-19. Drlg. 650 ft.

Shell Oil Co., Inc.'s No. 1 Keith, C SE SE Sec. 9-18-22. 9⅝-in. csg. 2,265 ft.; drlg. rd. sdy. sh. 7,160 ft.

Shell Oil Co.'s No. 1 Lewis, C NE NE Sec. 19-17-19. Set 9⅝-in. csg. 2,195 ft.; drlg. rd. sdy. sh. 7,142 ft.

Standard Oil Co. of La.'s No. 2 Booth, 660 ft. E, 560 ft. S, NW cor. SW SE Sec. 24-17-20. R.U.

Standard Oil Co.'s No. 4 Crone, C SW SE Sec. 8-16-22. Set 9⅝-in. csg. 2,075 ft.; drlg. sd.&sh. 4,700 ft.

Standard Oil Co. of La.'s No. 1-B N. Johnson, 655 ft. W, 660 ft. N, SE cor. SE SE Sec. 9-16-22. T. Sur. L. 7,266 ft.; T. por. 7,269 ft.; cg. 7,319 ft.

Standard Oil Co.'s No. 1-B W.B. Merritt et al unit, 560 ft. N, 660 ft. E SW cor. NE SE Sec. 16-17-20. Drlg. sd.& sh. 5,946 ft.

Standard Oil Co. of La.'s No. 1 Petty Stave, C SE SE Sec. 4-17-21. T. Buckner 7,736 ft.; T. Smackover L. 7,943 ft.; T. por. L. 7,956 ft.; T.D. 7,999 ft.; set 6-in. csg. 7,999 ft.; to perf.

Superior Oil Co.'s No. 1 Martel, C SW SW Sec. 10-18-22. Set 9⅝-in. csg. 4,-107 ft.; drlg. rd.&gr. sh. 6,210 ft.

G. H. Vaughn's No. 1 Jameson, C S½ S½ NE Sec. 15-17-20. Por. ool. L. 7,-690 ft.; S.W.; S.D.

Craighead County

Tennark, Inc., No. 1 R. M. Martin, SE cor. NE NE Sec. 35-14-3e. S.D. 4,350 ft.

Lafayette County

East Texas Ref. Co. et al's No. 1-C C. Warren et al, C NE SE NW Sec. 24-16-24. Tstd. S.W. 3,504-24 ft.; P.B. 2,275 ft.; drld. to 2,345 ft.; 5½-in. csg. 2,323 ft.; swbg. to test.

Little River County

C. & M. Drlg. Co.'s No. 1 Strawn, NW cor. SE SW Sec. 17-10-32. T.D. 1,810 ft.; arng. to drill plug; 7-in. csg. cmtd. 1,590 ft.; S.D.

Miller County

W. C. Feazel's No. 1 Heflin, 455 ft. N, 350 ft. E. SW cor. frac. Sec. 17-20-27. Drlg. sh.&L. 5,875 ft.

Nevada County

Benedum & Trees Oil Co.'s No. 3 Mary Jackson, 150 ft. S, 330 ft. W, NE cor. NW NE NE Sec. 9-14-20. T. sd. 2,122 ft.; T.D. 2,123 ft.; set 7-in. csg. 2,122 ft.; W.O.C.

O. T. Clark's No. 1 T. M. Bemis, 330 ft. NW cor. NW NE Sec. 23-10s-22. R.U. and S.D.

Ouachita County

Liberty Oil Co.'s No. 1 P. T. Hildebrand, 660 ft. S, 330 ft. W NE cor., SE Sec. 28-15-15, O.W.W.O., O.T.D. 4,934 ft. Perf. 2,780-84 ft.; small S.G.; hole full S.W.; W.O.

Sherry O'Brien's No. 2 Cooke est., 330 ft. SE cor. NW SW Sec. 27-15-18. Set 10-in. csg. 100 ft.; gas sd. 1,591-1,608 ft.; D.S.T. 1,619-21 ft.; rec. 50 ft. hvy. oil; cg. 2,219 ft.

Sevier County

R. A. McArthur's No. 1 Bell est., 20 ft. SE cor. SE SW Sec. 29-9s-32w. Set 12½-in. csg. 100 ft.; Drlg. 520 ft.

Union County—Schuler

Lion Oil Co.'s No. 1 Land, 330 ft. NE cor. SW SE Sec. 13-18-18. Set 16-in. 114 ft.; S.D. 125 ft.

Lion Oil Ref. Co.'s No. 7-B Morgan, 330 ft. NW cor. W½ SE Sec. 18-18-17. T. Jones sd. 7,546 ft.; T.D. 7,730 ft.; set 7-in. csg. 7,730 ft.; perf. 5,570-80 ft. and 5,592-98 ft.; swbg. to test.

Phillips Pet. Co.'s No. 1 Goodwin, 330 ft. N, 660 ft. W, SE cor. Lot 1, Sec. 19-18-17. Set 13⅜-in. csg. 147 ft.; drlg. 260 ft.

Union County—Other

Frank Anthony's No. 1 Jerry, Sec. 21-17-14. Drlg. sdy. sh. 2,580 ft.

Barnsdall Oil Co.'s No. 1 Cameron, C SW SW Sec. 36-19-17. Set 13⅜-in. csg. 239 ft. (cor.); set 10¾-in. csg. 2,430 ft.; cd. 4,149-66 ft.; rec. 16 ft. S in. hd. sd., sl. odor gas; B. chalk 2,593 ft.; T. Tko. 3,061 ft.; drlg. rd. sdy. sh. 5,605 ft.

E. G. Bradham's No. 4-A H. C. McKinney, 306 ft. N, 660 ft. E, SW cor. SW SW Sec. 30-17-15. Hole 120° off; P.B. 2,150 ft.; hole 11° off; abd. and skd. 20 ft. N; set 10-in. csg. 100 ft.; T.D. 2,167 ft.; set 7-in. csg. 2,167 ft.; drlg. in with C.T.

Delta Drlg. Co.'s No. 1 C. T. Grace, C SE SE Sec. 31-12-14. Set 10¾-in. csg. 815 ft.; T. Sur. L. 6,701 ft.; T. por. 6,-708 ft.; S.W. 6,712 ft.; tstd. mud, S.W.&S.O. 6,701-27 ft.; T.D. 6,819 ft.; W.O.

Lion Oil Ref. Co. No. 9-A Hays, Sec. 4 16-15. O.W.W.O.; O.T.D. 7,255 ft.; P.B 2,325 ft.; rpd. csg. 2,276-80 ft.; S.O.; pmpd. est. 700 B.P.D. S.W.; S.S.O.; arng. recmt. 2,325 ft.; W.O.C.

Ouachita Union Oil Corp.'s No. 1 Ramsey est., 330 ft. NE cor., SE NW Sec. 26-17-14. Set 10-in. csg. 107 ft.; S.D. 2,217 ft.; fuel.

Oil Prod., Inc.'s No. 1 Moore, C SE SE Sec. 1-17s-14w. T. Crain sd. 3,043 ft.; S.D. 3,066 ft.; W.O.

TEXAS

Week Ended December 9

GULF COAST FIELDS

Anchor—Brazoria County

Humble O. & R. Co.'s No. 1 Galznik & Taylor, J. de Jesus Valderas Sur. Loc.

Humble O. & R. Co.'s No. 1 M. W. Mettler, J. de Jesus Valderas Sur. 13⅜-in. csg. 944 ft.; 9⅝-in. csg. 7,139 ft.; drlg. sd. 10,498 ft.

Glenn McCarthy's No. 1 Ida M. Salmon and John Muma, Geo. Robinson Sur. 9⅝-in. csg. 6,860 ft.; T. Frio 8,820 ft.; T.D. 10,571 ft.

Old Ocean—Brazoria County

Harrison-Abercrombie's No. 7 Armstrong, Polly & Chance Sur. Drlg. sd. &sh. 10,350 ft.

Harrison & Abercrombie's No. 7 Bernard River Ld. Dev. Co., C. Breen Sur. Drlg. sh.&L. 6,569 ft.

Harrison & Abercrombie's No. 1 Bertheisen, C. Breen Sur. T.D. 10,392 ft.; 7-in. csg. 10,392 ft.; comp.; no ga.

Stanolind O. & G. Co.'s No. 1 Giles, C. Breen Sur. Drlg. sh.&L. 6,830 ft.

Sun Oil Co.'s No. 3 Borsodi, C. Breen Sur. 13⅜-in. csg. 1,515 ft.; 9⅝-in. csg. 7,020 ft.; drlg. sh. 7,112 ft.

Sun Oil Co.'s No. 3 Campbell, C. Breen Sur. 13⅜-in. csg. 1,506 ft.; 9⅝-in. csg. 7,008 ft.; drlg. sd.&sh. 9,967 ft.

Cedar Point—Chambers County

Standard Oil Co. of Texas' No. 55-119 State, 10¾-in. csg. 1,607 ft.; T.D. 6,-250 ft., S.W. sd.; P.B.: 7-in. csg. 3,678 ft.; perf. csg. 3,580-86 ft.; test S.W.; abd.

Seabreeze—Chambers County

Sun Oil Co. No. 2 Hoffman, T.&N.O. Sur No. 131. T.D. 8,400 ft.; W.O.C.

Turtle Bay—Chambers County

Stanolind O. & G. Co.'s No. 2 State, Tr 39, 16-in. csg. 115 ft.; T.D. 6,637 ft.; 5½-in. csg. 6,637 ft.; made sqz. job 6,624-27 ft.; W.O.C.

Garwood—Colorado County

Davis & Co., Inc., No. 1 J. R. McLane, I.&G.N. Sur. 41. T.D. 9,780 ft.; run 7-in. csg.

Big Creek—Fort Bend County

Merrimac Oil Corp. No. 1 George, B. Wickson Sur. (SW flank). Spd. and S.D.

Caplen—Galveston County

Sun Oil Co.'s No. 3 Cade, A. Dickson Sur. 10¾-in. csg. 1,939 ft.; T.D. 7,532 ft.; 7-in. csg. 7,532 ft.; perf. csg. 7,209-15 ft.; I.P. 425 B.P.D.; ¼-in. ck.

Sun Oil Co.'s No. 2 Zinn & Forman, S. F. Hughes Sur. Bldg. drk.

League City—Galveston County

Phillips Pet. Co.'s No. 1 Brittnacher, S. F. Austin Sur. Cg. sh. 9,586 ft.

Phillips Pet. Co.'s No. 6 Lobit, Perry Austin Sur. T.D. 9,305 ft.; 5½-in. csg. 9,303 ft.

Phillips Pet. Co. No. 1 Dr. O. Patton (1 mi. E of production). Perf. csg. 9,177-97 ft.; flwd. S.W.; sqzd. perf.; C.O.

Phillips Pet. Co.'s No. 2 J. S. Rice est., J. M. Perry & Austin Sur. Drlg. sh. 10,339 ft.

Phillips Pet. Co.'s No. 3 Stewart Title Guaranty Co., S. F. Austin Sur. R.U.

Phillips Pet. Co.'s No. 4 Stewart Title Guaranty Co., S. F. Austin Sur. 10¾-in. csg. 3,520 ft.; 7⅝-in. csg. 9,510 ft.; drlg. sh. 10,466 ft.

Phillips Pet. Co. No. 1 Wimhurst (NW extension). T.D. 10,962 ft.; well tried to blow out; D.S. stk.; P.B. 10,630 ft.; perf. csg.; set 23 ft. screen on bttm. 10,882 ft.; flwd. 9 bbl. dist. P.D.: 9/64-in. ck.; T.P. 1,500 lb.; killed well; milling on bit.

Bammel—Harris County

H. M. Harrell's No. 1 Ehrhardt, Ehrhardt & Ketchum Sur. T.D. 6,196 ft.; perf. csg. 6,166-74 ft.; comp. as gas-dist. well.

H. M. Harrell's No. 1 Graves, C. Walters Sur. Loc.

Clear Lake—Harris County

Humble O. & R. Co.'s No. 25-C Humble-West, Wm. Doble Sur. T.D. 6,500 ft.; abd.

Humble O. & R. Co.'s No. 26-C Humble-West, Wm. Doble Sur. Drlg. sh. 1,920 ft.

Friendswood—Harris County

Humble O. & R. Co.'s No. 17 Keisling-Dixon, T. Choate Sur. Drlg. sh. 5,630 ft.

Humble O. & R. Co.'s No. 17 West Prod., T. Choate Sur. Drlg. sh. 5,320 ft.

Humble O. & R. Co.'s No. 19 West, T. Choate Sur. Drlg. sh. 5,324 ft.

Ganado—Jackson County

Texas Co.'s No. 1 Ross, J. Simon Sur. T.D. 5,108 ft.; 5½-in. csg. 5,085 ft.; flwg. 10 B.P.D.; tstg.

Clam Lake—Jefferson County

Shell Oil Co., Inc.'s No. 8 McFaddin, S. A. Pace Sur. T.D. 4,000 ft.

La Belle—Jefferson County

Sun Oil Co. No. 5 Broussard-Hebert, I. &N.O. Sur. No. 207. T.D. 8,710 ft., perf. csg. 8,685-90 ft.; flwd. S.W., made sqze. job; perf. csg. 8,667-71 ft., tstd. S.W.; made sqze. job; S.D.

Lovells Lake—Jefferson County

J. H. Blaffer's No. 1 Williams, Wm. Carr Sur. T.D. 7,724 ft.; 5½-in. csg. 7,718 ft.

Humble O. & R. Co.'s No. 16 Broussard, M. Granger Sur. Drlg. sh. 6,666 ft.

Humble O. & R. Co.'s No. 8 Jefferson Ld., Wm. Carr Sur. Drlg. L. 5,930 ft.

Stanolind O. & G. Co.'s No. 2-A Steinhagen, Wm. Carr Sur. T.D. 7,818 ft.

Stanolind O. & G. Co.'s No. 4-A Steinhagen, Wm. Carr Sur. Drlg. sh.&L. 7,420 ft.

Stanolind O. & G. Co.'s No. 5-A Steinhagen, H. O. Donnell Sur. Drlg. sh. &L. 6,339 ft.

South China—Jefferson County

Hebert & Smith's No. 1 Guttermann, G. T. Gaylor Sur. 12. R.U.

Esperson—Liberty County

General Crude Oil Co.'s No. 7-B Esperson, A. McNeil Sur. T.D. 7,860 ft.; P.B. and sdtrkd.; drlg. sh. 5,439 ft.

General Crude Oil Co.'s No. 10 B. Esperson, A. McNeil Sur. Drlg. sh. 2,034 ft.

Hull—Liberty County

Gulf Oil Corp. No. 115 Phoenix Dev Co., J. Devore Lge. (SE flank dee: test). 9⅝-in. csg. 5,904 ft.; T.D. 7,566 ft.; cutting out D.P.

Martha—Liberty County

Pan American Prod. Co.'s No. 1 Hutcheson, Beasley Pruitt Sur. Drlg. sh. 8,-676 ft.

Stanolind O. & G. Co.'s No. 2 Flowers, I.&G.N.R.R. Sur. Drk.

Stanolind O. & G. Co.'s No. 2 Seaberg, T.D. 8,164 ft.; tstg.

Stanolind O. & G. Co.'s No. 1 H. F. Tyrell, I.&G.N. Sur. 7. 10¾-in. csg. 1,-214 ft.; T.D. 8,355 ft.; 5½-in. csg. 8,-104 ft.; perf. csg. 8,013-16 ft.; swab. S.W.; S.S.O.; making D.S.T.

Segno—Polk County

Gulf Oil Corp. No. 4 Quinn, A. Morales Sur. R.U.

Gulf Oil Corp.'s No. 25 Wing, I.&G.N. Sur. 15. Drlg. sh.&L. 7,560 ft.

Gulf Oil Corp.'s No. 26 Wing, I.&G.N. Sur. 15. T.D. 8,187 ft.; tstg.

Humble O. & R. Co.'s No. 19-BX Kirby Lbr. Co., P. Garcia Sur. Drlg. sh. 2,-327 ft.

Jordan Drlg. Co.'s No. 1 E. H. Hughes, I.&G.N. Sur., Sec. 13. T.D. 8,106 ft.; tstg.

Spurger—Tyler County

Republic Prod. Co.'s No. 28 fee, N. Hurd Sur. 9⅝-in. csg. 1,333 ft.

Republic Prod. Co.'s No. 29 fee, N. Hurd Sur. T.D. 7,710 ft.; W.O.C.

Hilje—Wharton County

Texas Co.'s No. 2 Peters, E.T.R.R. Sur., Sec. 101. Loc.

GULF COAST WILDCATS

Brazoria County

Fabriguze et al No. 1 Freeport Sulphur, Stephen F. Austin Sur. (Byran Mound) M.I.M.

Hamman Explin. Co. No. 1-B Darrington, State Prison Farm, F. Binghan Sur. Rig.

D. M. Hill's No. 1 Max Bader, Wm Smeathers Lge. Loc.

Humble O. & R. Co.'s No. 1 Hiram Moore, Hooper & Wade Sur., Lot 27 10¾-in. csg. 2,477 ft.; T.D. 8,678 ft.; abd.

Humble O. & R. Co.'s No. 1 A. M. Smith, W. D. C. Hall Sur. Drlg. sh.&L. 9,655 ft.

Glenn McCarthy's No. 1 E. W. K. Andrau, H.T.&B. Sur. 5. 10¾-in. csg. 3,-512 ft.; drlg. sh. 9,266 ft.

Glenn McCarthy's No. 2 Houston Farm Dev. Co., J. Perry & E. Austin Sur. 7 10¾-in. csg. 3,492 ft.; drlg. sh.&sdy. sh. 9,326 ft.

Mayo & Frazier's No. 1 Darrington, State Prison Farm, A. McFarlan Sur. Drlg. sh. 6,056 ft.

Texas Co.'s No. 8 Freeport Sulphur Co., Ariola Sur. T.D. 3,031 ft.; P.B. 2,486 ft.; 5½-in. csg. 2,450 ft.; swbd. and flwd. by heads 7 B.O., 11 bbl. S.W.

Chambers County

Geo. Anderson No. 1 Julia Casey, W. D. Smith Sur. Loc.

J. R. Turnbull's No. 2 Kirby Pet. Co., Chambers Co. Sch. Ld. Sur. Cg. 6,240 ft.

Colorado County

Cockburn Oil Corp. No. 1 R. W. Ferra, H. Chrisman Sur. Loc.

Fort Bend County

Fred Browning's No. 1 Kroescher, W. Bartlett Sur. Loc.

H. C. Cockburn's No. 1 G. W. Burkett, Bundieck Sur. Loc.

Gulf Oil Corp.'s No. 1 Russell Brown, Wm. Pettus Sur. 10¾-in. csg. 1,228 ft. cg. sh. 8,380 ft.

H. Link & J. Mayo's No. 1 R. G. Foss, Sec. 63, H.&T.C. Sur. T.D. 6,528 ft.

Magnolia Pet. Co.'s No. 1 G. H. Huntington, Henry Scott Sur. T. Cckfld. 7,556-60 ft.; T.D. 8,552 ft.; run 7-in. csg.

Ray Ranger's No. 1 Sugarland Industries, John Foster 2½ Lge. Loc.

Superior Oil Co.'s No. 1 A. P. George, Wiley Martin Sur. Drlg. sdy. sh. 7,-158 ft.

Galveston County

Continental Oil Co.'s No. 1 Lobit-Cherardi, Perry & Austin Sur. Drlg. sh. 3,-410 ft.

Hebert & Smith's No. 1 J. A. Harris, Edw. Hall & Levi Jones Sur. Drlg. sh. 2,515 ft.

Harris County

Gulf Oil Corp.'s No. 1 H. H. Roberts, A. Roberts Sur. Drlg. sd.&sh. 3,336 ft.

John Mayo et al's No. 1 A. A. Sharpe, S. G. Haynil Sur. Loc.

Jefferson County

Falcon Seaboard Drlg. Co.'s No. 1 Powell, W. V. Vacocy Lge., Lot 6. Drlg. sh. 2,730 ft.

Merrimac Oil Corp.'s No. 1 State, Tr. 72, 50 ft. due E of Harwell's abd. hole. M.I. rig.

Liberty County

Hebert & Smith's No. 1 W. E. Boyt, H. &T.C.R.R. Sur. Loc.

Matagorda County

Gulf Stream Oil Co.'s No. 1 G. W. Ziprian, Luke Lessassier Sur. S.D. 735 ft.

McDannald Oil Co.'s No. 1 G. W. Shell, B. C. Arthur Sur. Drlg. sh. 2,739 ft.

Van M. Vincent's No. 1 J. F. McNabb Est., E. R. Wightman Lge. Loc.

Montgomery County

H. C. Cockburn et al's No. 1 Bender, Montgomery Co. Sch. Ld. and De Crow Sur. Loc.

David B. MacDaniel's No. 1 Hattie O. Baldwin, Walker Co. Sch. Ld. Sur. 10¾-in. csg. 1,230 ft.; drlg. sh. 7,020 ft.; no report; "tight well."

Ralph Sturm et al's No. 2 Foster, Abraham Perehouse Sur. Loc.

T. J. Wood & J. R. Martin's No. 1 H. B. Fultz, Wm. C. Clark Sur. Spudded.

Newton County

W. M. Oil Co.'s No. 1 W. A. Smith, Tex. Central R. R. Co., Sur. 2. 10¾-in. csg. 1,220 ft.; cg. sdy. sh. S.G. odor.

Orange County

American Eagle Oil Co. No. 2 Geo. Pell, Geo. A. Patillo Sur. T.A. loc.

San Jacinto County

Harrison & Abercrombie's No. 1 Lockin, Wm. Hays Sur. R.U.

Tyler County

J. Z. Werby et al's No. 1 Hayes, J. C. Boyett Sur. Drk.

Waller County

Hunter & Mayos et al's No. 1 Humble fee, Wm. Hooper Sur. R.U.

Washington County

Mount Selman Oil Co. No. 1 Fritz Fuelberg, W. Lightfoot Sur. S.D. 4,510 ft.

Sunray Oil Co.'s No. 1 S. E. Lockhart, Gibson Kuykendall Sur. 10¾-in. csg. 1,192 ft.; drlg. sh. 7,132 ft.

Wharton County

Frank Campbell et al's No. 1 Harrison & Mitchell, Sec. 21, G.H.&H.R.R. Sur. 16-in. csg. 64 ft.

Dr. T. M. Neal No. 1 fee, Elisha Flack Sur. Loc.

Sun Oil Co.'s No 1 Winnie M. Pool, G. H.&R.R. Sur. S.D. 7,348 ft.; T.A.

S. W. TEXAS WILDCATS

Aransas County

Continental Oil Co.'s No. 1 St. Charles Co., R. D. Blassman Sur. 18⅝-in. csg. 290 ft.; T.D. 8,387 ft.; S.D. until 1940.

Atascosa County

Bancroft Drlg. Co.'s No. 1 Krisch, Juan C. Dierks Sur. 1207. T.D. 1,655 ft.; abd.

Bastrop County

C. R. Franklin's No. 1 Oscar McDonald, Martha Barker Sur. Drlg. 1,050 ft.

Marts & Beaven's No. 1 J. E. Ferguson, Jas. Doyle Sur. S.D. 1,725 ft.

Bee County

Coronado Corp.'s No. 1 Claude Heard, M.M.&J. Tool Sur. 4-min. D.S.T. 3,257-70 ft.; tstd. 320 lb. W.P.; D.S.T. 4,703-08 ft.; tstd. 480 lb. W.P.; T.D. 5,520

ft.; P.B. 5,274 ft.; perf. csg. 4,801-03 ft.; tstd. 1,200 lb. W.P.; 270 ft. S.W.

Humble O. & R. Co.'s No. 1 W. T. Caswell. Loc.

Mills Bennett Prod. Co.-Anderson-Prichard Oil Corp.'s No. 1 D. E. Robinson, J. M. Uranga Sur. T. Wlx. sd. est. 7,531 ft.; cd. sd.&sh. good O.&G. odor; 14-min. D.S.T. 7,541-51 ft. rec. 15 ft. oil; 245 lb. W.P.; will core 10 ft. and make D.S.T.; 5-min. D.S.T. 7,620-60 ft. tstd. 62 lb. W.P.; rec. 225 ft. gas-cut mud; well tried to blow out at 7,921 ft.; stk. D.S.; set 8⅝-in. csg. 3,754 ft.; prep. to test shows in Yegua sd.

Texas Gulf Prod. Co.'s No. 1 C. E. Culpepper, Dwyer Sur. Drlg. sh. 3,702 ft.

Bell County

G. P. Shelton et al's No. 1 Nelson, Michael Griffin Sur. S.D. 1,208 ft.

Bexar County

L. Beauchamp et al's No. 1 J. J. Brown, R. F. Shield Sur. 19. Loc.

Heller Pet. Co.'s No. 1 Wildmann, Juan Sanchez Sur. 34. Drlg. 397 ft.

Philtop O. & G. Co.'s No. 1-A Cassin, Fernando Rodriquez Sur. R.U.

Geo. Shelton's No. 1 Gembler, Adam Stafford Sur. No. 49. R.U.

J. A. Tarver's No. 1 Florence Lam, Manuel de Luna Sur. 3. 6⅝-in. csg. 1,205 ft.; T.D. 1,692 ft.; cd. bkn. sh. 1,638-92 ft.; S.S.O.; bailed est. 10 bbl. oil P.D. before sanding up; cleap out hole.

Blanco County

E. L. Nixon's No. 3 Crist. John McClenechen Sur. 94. T.D. 936 ft.; fsg.

Brooks County

Magnolia Pet. Co.'s No. 1 Vivian Rust, La Gloria townsite subd. Drlg. sh 7,279 ft.

Burleson County

H. Y. Barnett's No. 1 Giesenschlag, J. W. Hollingsworth Sur. R.U.

Caldwell County

Kean & Williamson's No. 1 E. E. Rector, J. Roberts Sur. S.D. 300 ft.

Calhoun County

Coronado Corp. No. 1 K. Welder, Hidalgo Sur., 3 mi. SE Seadrift. "Tight well"; drlg. 9,160 ft.

Cameron County

Pure Oil Co.'s No. 3 Gatewood-Newberry, Sh. 3, San Martin gr. Drlg. sh. 5,830 ft.

De Witt County

Atlantic Ref. Co.'s No. 1 Pearl Conwell, Chas. Lockhart Sur. Loc.

Duval County

J. B. Blanchard's No. 1 E. A. Parr, T. C. Rogers Sur. T.D. 4,250 ft.; abd.

J. B. Blanchard's No. 1-A Parr, T. C. Rogers Sur., Sec. 22. T.D. 202 ft.

W. L. Catlin et al No. 1 Louis Escapule, J. Poitevent Sur. No. 73. Loc.

Cox & Hamon's No. 1 Hoffman-Gorman, B.S.&F. Sur., Sec. 119. 10¾-in. csg. 35 ft.

Frank Gravis' No. 1 F. Vaello, Robt. Fletcher Sur. Cg. 6,020 ft.

McCreslenn Oil Co.'s No. 1 Worden-Drought, J. L. Saen Sur. 156. Loc.

Magnolia Pet. Co.'s No. 2 Deke, Sur. 262. Drlg. sh. 265 ft.

Magnolia Pet. Co.'s No. 2 Duval Co. Rnh. Co., Sur. 300. T.D. 1,680 ft.; abd.

Mills Bennett Prod Co.'s No. 1 Henry Adami, J. H. Gibson Sur. 349. T.D. 1,312 ft.; abd.

Mills Bennett Prod. Co. and Stanolind O. & G. Co.'s No. 2-A Ira Yates, E. N. Gray Sur. 224. R.U.

H. J. Porter's No. 1 O. G. Garcia, A.B. &M. Sur. 411. R.U.

H. D. Rogers' No. 1 Rossen, R. F. Neeley Sur. 48. S.D. 250 ft.

Rowan & Hope's No. 1 Lopez, M. Lopez Sur. Drlg. sh. 5,597 ft.

Taylor Ref. Co.'s No. 1 Parr, E. Garcia Sur. Cg. sd.&sh. 7,350 ft.

Falls County

J. Shaunfield No. 1 Barganier, J. M. Graham Sur. Bda. L.; S.S.O.; T.D. 1,188 ft.; recmtd. csg.; W.O.; cmt. failed to hold.

Frio County

Holland Oil Co.'s No. 1 Anna Witting, Dan T. Price Sur. 6. R.U.

Gonzales County

J. A. Walker et al's No. 1 C. L. Dubose, E. C. Coffman Sur. Drlg. sh. 590 ft.

Guadalupe County

Pat Armstrong's No. 1 Ernst Saeti, J. D. Clement Sur. T.D. 2,679 ft.; abd.

Burton-Garvin & Womack's No. 2 Henry Weil, E. de Los Santos Coy Sur. No 93. R.U

Knute Evjen et al's No. 1 W. C. Brawner, J. D. Pickens Sur. T.D. 2,372 ft.; 5½-in. csg. 2,300 ft.; swbd. dry; S.D.

F. D. Spratt's No. 1 Wm. Zuehl, Claiborne Rector Sur. 38. Drlg. 456 ft.

Wellington Oil Co. of Dela.'s No. 1 Wells. H.&T.C.R.R. Sur. 5. R.U.

E. A. Weyel et al's No. 1 H. G. Lentz, Vicente Michelli Sur. 52. T.D. 792 ft., sh.: 3-in. csg. 700 ft.; swbg. 2½ B.O. P.D.; gr. 41.8°; R.U. to pmp.

E. A. Wevel's No. 3 Schaffi K. Bingham Sur. 487. T.D. 781 ft.; abd.

Jim Hogg County

Daubert & Achning's No. 1 A. Vela, Joseph Odom Sur. 572. Loc.

W. C. Gray et al's No. 1 Rosa Palacios, G. W. Waddell Sur. S.D. 50 ft.

Humble O. & R. Co.'s No. 2 Mestena O. & G. Co., Francisco gr. Cg. sdy. sh., oil odor 6,495 ft.

Mayfair Oil Corp.'s No. 1 I. R. Gutierrez, C. Gutierrez Sur. 164. T.D. 3,223 ft.; tstg.; 5½-in. csg. 3,217 ft.; swbd. dry; pmpd. 18 B.F.P.D.; S.I. for storage.

C. A. Nibert et al's No. 1 Yeager Sur. 20. S.D. 1,316 ft.

Jim Wells County

Austin Pet. Co. No. 1 H. M. Reed (8 mi. NW Orange Grove), J. Poitevent Sur. Cmtd. surf. pipe 190 ft.; S.D. 210 ft.

W. L. Hinds' No. 1 Wm. Adams, T.&N. O.R.R. Sur. 19. Drlg. sh. 4,215 ft.

H. H. Howell's No. 1 Clara Driscoll, La Anima Sola gr. R.U.

Magnolia Pet. Co.'s No. 1 C. C. Hornsby, Los Olmos y Loma Blanca gr. T.D. 7,209 ft.; perf. csg. 7,066-80 ft.; flwd. gas and dist.

Magnolia Pet. Co.'s No. 1 W. C. Hornsby (La Gloria field). T.D. 7,219 ft.

A. F. Sears & A. E. McKenzie's No. 1 J. H. McGahee, 10¾-in. csg. 196 ft.; drlg. sh. 4,510 ft.

Karnes County

Clyde Eckols' No. 1 J. M. Newberry, Carlos Martinez Sur. T.D. 2,950 ft.; making D.S.T.

Gar Oil Co.'s No. 1 R. L. Barnett, Alex C. Hunter Sur. S.D. 8 ft.

Kendall County

C. M. Dewey's No. 2 Seidensticker, R. Davis Sur. No. 20. S.D. 835 ft.

Kimble County

A. L. Bierschwale's No. 1 F. W. Kraeke, Sur. 366. Drlg. L. 980 ft.

Kleberg County

Humble O. & R. Co.'s No. 1 H. Andrews, Rincon De Santa Gertrudis gr. 8⅝-in. csg. 1,082 ft.; drlg. sh. 5,627 ft.

Humble O. & R. Co.'s No. 1 J. M. Reed, Rincon De Santa Gertrudis gr. T.D. 7,192 ft.; abd.

La Salle County

John Vivian's No. 1 Louis Yeager, A.B. &M. Sur. 53. Cd. O.S. 699-703 ft.; T.D. 709 ft.; 5½-in. csg. 696 ft. (cor.); swb. S.W.; cg. deeper.

Lee County

Fred Pederson et al No. 1 Brown, Davis Hudson Sur. T. Glen Rose L. 6,600 ft.; drlg. L. 6,970 ft.

Live Oak County

Amory Oil Corp.'s No. 1 Moezygemba S. M. Williams Sur. 113. Spd.

L. W. Stieren's No. 3 Lange, Thos. Adams Sur. T.D. 1,497 ft.

McMullen County

Harrison & Ross' No. 1 T. A. Bracken, W. W. Allsberry Sur. 30. T.D. 1,101 ft.; abd.

C. D. Scarborough No. 1 First Natl. Bk. of Rosebud, Jas. Garner Sur. S.D. 1,680 ft.

Medina County

T. J. Tapp's No. 1 Bendele, F. Sauer Sur. 117. R.U.

York Pet Co.'s No. 1 Kate Smith, Marie Ihnken Sur. 11. Drlg. 90 ft.

Milam County

Alex Krause's No. 1 Graves, Jackson Hall Sur. T.D. 1,527 ft., L.; 7-in. csg. 1,520 ft.

W. H. Lawrence et al's No. 1 J. F. Bartek, Jose De Pena Sur. S.D. 1,592 ft.

Nueces County

John Manley et al No. 1 Ruegg, Geo. H Pauls subd. of Driscoll ranch. Loc.

Fred Shields' No. 1 J. H. McElroy, M. L. De Herrera gr. Drlg. sh. 4,818 ft.

Shield Oil Co.'s No. 1 N. S. Fulton, Nueces River Irrg. Park subd., Lot 8, Blk. 4. Drlg. sh. 4,837 ft.

Refugio County

D. C. Matthews et al's No. 1 L. C. Munzenberger, J. M. Aldrete Sur. T. D. 2,011 ft. Abd.

Norsworthy Prod. Co. No. 1 Wood. John Sinnott Sur. T.D. 6,508 ft. (cor.); S.D.

Starr County

Clopton & Mitchell's No. 1 Green & Manning, J. J. Garza Falcon Por. No. 81. S.D. 377 ft.

Clopton, Mitchell et al's No. 1 F. W. Seabury, J. A. Falcon, Porc. 80. 8¼-in. csg. 88 ft.; T.D. 2,757 ft.; S.D.; S.W. sd.; 5½-in. csg. 1,401 ft.; perf. csg. 1, 328-33 ft.; I.P. 38 B.P.D.; ¼-in. ck.

C. L. Foster's No. 1 H. Garza, Juan Salinas. Porc. No 71. S.D. 100 ft

W. E. Gilbert's No. 1 Escobas, Jose F. Garza, Porc. 71. S.D. 330 ft.

Lynes & Robertson's No. 1 Villareal, C. C.S.D.&R.G.N.G.R.R. Sur. 241. Loc.

Magnolia Pet. Co.'s No. 2 Yzaquirre, La Sal Colorado gr. Drlg. sh. 4,100 ft.

Travis County

J. H. Gray's No. 1 Washington, Jose Antonio Navarro Sur. Drlg. sh. 1,607 ft.

Victoria County

Barnsdall Oil Co.'s No. 1-A Keeran, M De Leon Sur. Drlg. sh. 6,350 ft.

W. S. Bovle's No. 1 P. C. Meyer, Victoria townsite Sur., Blk. 3. Drlg. 3,010 ft.

Renwar Oil Corp.'s No. 1 M. L. Stoner, Diego Garcia Sur. T.D. 6,015 ft., sd., O.S. 4,281-83 ft.; 5½-in. csg. 4,378 ft.; perf. csg. 4,261-80½ ft.; rec. S.W.; S.D.

Transwestern Oil Co.'s No. 1-G McFaddin, Jules Vairin Sur. R.U.

Webb County

Amsco Ref. Co.'s No. 1 R. Y. Vasquez, Morris & Cummings Sur. No. 1089. Loc.

Boysen & Jones' No. 5 A. Watkins, San Casimiro gt. T.D. 721 ft.; abd.

Learn Oil Co.'s No. 1 T. S. Masterson, C.C.S.D.&R.G.N.G. Sur. 17. Loc.

Geo. Noble's No. 1 Row & Bonham, D. F. Felps Sur. 1698. Loc.

Tide Water Asso. Oil Co. No. 7 Brunt, Blk. 7, M. Arispe gr. (deep test Brunfield). T.D. 8,959 ft.; well blew out; hole bridged; stk. D.S.; prep. to P.B. and test approx. 5,600 ft.; bleeding off gas.

Williamson County

Jackson & Zizinia's No. 1 H. B. Land, P. Coursey Sur. Drlg. sh. 530 ft.

H. C. Lefors' No. 1 H. J. Priesmeyer Jehu Bevil Sur. 56. Drlg. sh. 1,050 ft.

Taylor Ref. Co.'s No. 1 Brymer, Simon Miller Sur. 150. Drlg. sh. 1,666 ft.

Wilson County

W. D. Moore et al's No. 1 Lorenz, Morris May Sur. T.D. 55 ft.; W.O.C.

Zapata County

J. P. Martin et al's No. 1 Serapio Vela, El Grullo gr. S.D. 2,270 ft.

Neilson & Wise's No. 1 Maryland Tr. Co., J. H. Vermilion Sur. 314. T.D. 2,314 ft.; 5½-in. csg. 1,816 ft.; perf. csg. 1,774-80 ft.; swab wash wtr., small amt. of gas-cut mud with some oil.

WEST TEXAS WILDCATS

Crane County

Gulf Oil Corp. No. 5 M. B McKnight Sec. 1, Blk. 21-B, P.S.L. Sur. Straightening hole 5,615 ft.

Gulf Oil Corp.'s No. 12 Waddell, Sec. 30, Blk. 26-B, P.S.L. Sur. 12-in. 532 ft.; drlg. 2,585 ft.

Crockett County

Commercial O. & G. Co.'s No. 1 O. W. Parker, Sec. 83, Blk. 1, I.&G.N. Sur. Drlg. 1,935 ft.

Continental Oil Co.'s No. 1 Todd Unit, SW¼ Sec. 30, Blk. W.X., C.G.S.F. Sur.; Ordovician test. Topped Simp. at 6,040 ft.; show dead oil; drlg. 6,664 ft.

Kimberlin's No. 1 J. W. Robbins, Sec. 4 Blk. B, G.C.&S.F. Sur. Drlg. 1,841 ft.; S.O. 1,797 ft.

Moore Bros.' No. 1 Henderson, Sec. 51, Blk. O.P., G.C.S.F. Sur. U.R. 725 ft.

Dawson County

Ray Albaugh's No. 1 Dewey Hogg (O. W.D.D.). S.D.O. 4,222 ft.

Ector County

Landreth Prod. Corp. and Shell Oil Co., Inc.'s No. 1 J. L. Johnson, Sec. 43, Blk. 43, Twp. 1s, T.&P. Sur. W.O.C. 7-in. at 4,029 ft.

Stanolind O. & G. Co.'s No. 1 W. F. Cowden, SW¼ Sec. 4, Blk. 43, Twp. 1n, T.&P. Sur.; deep-lime test. Loc.

Gaines County

Oil Well Drlg. Co.'s No. 1 R. E. Sikes, Sec. 10, Blk. 25-A, P.S.L. Sur. M.I.M.

Stanolind O. & G. Co.'s No. 1 American Warehouse, Sec. 5, D.&W. Sur., offset to No. 1 Rayner, discovery well. S.O. 4,624-4,734 ft.; 7-in. 4,388 ft.; made 335 bbl. in 22 hrs.; tstg.; cmtd. 7-in. 4,471 ft.; cd. sat. 4,805-64 ft.; W.O.C.

Stanolind O. & G. Co.'s No. 1 T. S. Riley, Sec. 11, Blk. H, D.&W. Sur. Drlg. 4,230 ft.

Hockley County

Geo. P. Livermore's No. 1 R. D. Glimp Sec. 8, Blk. X, P.S.L. Sur. Drlg. 3,580 ft.

Irion County

W. S. Kelly's No. 1 Yates, Conrad Poppe Sur. 730. Drlg. 165 ft.

Loving County

J. E. Whitesides' No. 1 fee, Sec. 24, Blk. 76. Bldg. roads.

Lynn County

John L. Baldridge No. 1 Alma Lbr. Co., Sec. 151, H.E.W.T. Sur. Drld. out 3,570 ft.; S.D.O.

Mitchell County

Sinclair Prairie Oil Co.'s No. 1 E. E. Erwin, Sec. 1, Blk. 5, H.&T.C. Sur. Loc.

Pecos County

R. L. Baker's No. 1 White & Baker, Sec. 86, Blk. 194, G.C.&S.F. Sur. Loc.

Humble O. & R. Co.'s No. 1 Young, Sec. 33, Blk. 10, H.&G.N. Sur. Drlg. 2,664 ft.

B. McCandless and General Crude Oil Co.'s No. 1 Virginia W. Crockett, Sec. 5, Blk. 110, T.C.R.R. Sur. Drlg. 3,260 ft.; S.S.G.

Phillips Pet. Co.'s No. 1 Sarah Byrne, Sec. 114, Blk. 11, H.&G.N. Sur. Loc.

Stanley Thompson No. 1 Elsinore Cattle Co., Sec. 54. Blk. D. G.C.&S.F. Sur. Drld. by 7,073 ft.; 500 ft. S.W. in hole: S.D.O. 7,342 ft.

Superior Oil Co. No. 1 V. W. Crockett-Continental Oil Co., Sec. 7, Blk. 116 T.C.R.R. Sur. C.&P.

H. C. Walker's No. 1 Alva Reed, Sec. 20, Blk. 10, H.&G.N. Sur. Bldg. rotary drk. 63 ft.

Williams & White's No. 1 Bailey, Sec. 25, Blk. 146, T.&St. L. Sur. P.B. 2,828 ft. from 3,005 ft.; drld. out to 2,990 ft.; est. 8 B.O. and 4 B.W. dly.; S.D.O. 3,005 ft.

Reeves County

T.A.T. Oil Co.'s No. 1 U. G. Orenderff, Sec. 10, Blk. 59, P.S.L. Sur. Drlg. 417 ft.

Scurry County

Coffield & Guthrie's No. 1 Reiter, Sec. 155, Blk. 97, A.T.&T.C. Sur. Drlg. 2,755 ft.

Terrell County

E. M. Thomasson No. 1 Bates. Sec. 31, Blk. 1, H.&G.N. Sur. Straightening hole 1,560 ft.

Tom Green County

Cannon & Hagen's No. 1 M. D. Bryant, S. Raul Sur. 753. Drlg. 300 ft.

Johnson's No. 2 Rape, Sec. 2, Blk. 18, H.&T.C. Sur. S.D.O. 370 ft.

Dan Short's No. 1 J. G. Davidson, NW part of Lovie P. Moore Sur.; 3,500-ft. test. S.S.O.&G. 2,660-65 ft.; U.R. csg. at 2,785 ft.

Ward County

Gulf Oil Corp. No. 5 Wristen, Sec. 18, Blk. 5, H.&T.C. Sur.; scheduled Ordovician test. Prep. set whpstk. 2,885 ft.

Magnolia Pet. Co.'s No. 2-43 Sealy, Sec. 43, Blk. F, G.M.M.B.&A. Sur. W.O. 2,952 ft., T.D.; making 69,000,000 cu. ft. gas; incr. amt. oil; prep. perf. lnr. 2,908-3,018 ft.

Merry Bros. & Perini's No. 1 Bird Hayes, Sec. 148, Blk. 34, H.&T.C. Sur. Drlg. 956 ft.

Yoakum County

Sloan & Zook and T. N. Sloan's No. 1 J. E. Fitzgerald, Sec. 22, Blk. D, Gibson Sur., extreme NE cor. of county. 7-in. csg. 4,812 ft.; drlg. 4,905 ft.

TEXAS PANHANDLE

Deaf Smith County

Ucan No. 1 Farwell, Sec. 18, Blk. 3, X. Sur. C.O. 5,650 ft.

Hartley County

Phillips Pet. Co. No. 1 W. K. Gordon, Sec. 3, Blk. 44, H.&T.C. Sur. showed 34,300,000 cu. ft. gas below 3,415 ft.; P.B. for gas well 3,415 ft.; tstg.

Lipscomb County

Phil O'Neil's No. 1 Jacob Koch, NW¼ SW¼ Sec. 539, T.&T.C.R.R. Sur. S.D. 1,100 ft.

Ochiltree County

James R. Macon et al No. 1 W. R. Norris, SW SE Sec. 212, Blk. 43, H.&T.C. Sur. T.D. 6,274 ft.; test sec. at 5,000 ft.; est. 6,000,000 cu. ft. gas on D.S.T.; tstg.; bailing 6,274 ft.; unloaded csg. at well and preparing to test increasing shows of oil and gas.

Potter County

Lee Whitaker No. 1 D. Pavillard, Sec. 101, Blk. 2, A.B.&M. Sur. Fish out; S.D. 915 ft., csg.

Sherman County

Hagy, Harrington & Marsh's No. 1 W. Freeman, Sec. 46, Blk. 2, G.H.&H. Sur. T.D. 3,272 ft.; prep. to P.B. 2,894 ft.

T.I.O.'s No. 1 S. C. Bryant, NW¼ Sec. 369, Blk. 1-T, T.&N.O. Sur. Fsg. tools 2,511 ft.

E. C. TEXAS WILDCATS

Anderson County

R. H. Williamson No. 1 O. G. Rogers, Wm. Greenwood Sur., 6 mi. SW of Elkhart. S.D. 5,175 ft.

Angelina County

Slater Bros. No. 7 Copes Hrs., J. Morin Sur., 3 mi. E of Dibol. Drlg. 800 ft.

Camp County

Harry Moss' No. 1 Joe Venters, S. Wright Sur., 3 mi. SE Leesburg. O.W. D.D.; O.T.D. 5,710 ft.; R.U. to dpn. to 7,500 ft.

Cherokee County

C. C. Lanier's No. 1 W. O. Reagan, W. T. Smith Sur., 2½ mi. E of Mixon. Drk.

Falls County

A. H. Bell's No. 2 Garrett, J. Sanchez Sur., NE of Lott. Loc.

R. D. Salisbury No. 1 W. M. Shankle, J. A. Manchaca Sur 1¼ mi. NE Chilton. P.B. 1,103 ft.; S.D.; W.O.

Fannin County

H. W. English's No. 1 T. W. Ayers, J. D. Seales Sur. S.D. 815 ft.

C. Newburn's No. 1 A. G. Allen, M Caldwell Sur., 7 mi. NE of Banham. R.U. and S.D.

Hill County

Carter-Bowland's No. 1 J. J. Atchison estate, E. Carrol Sur., 5 mi. W of Hillsboro. S.D. 85 ft.

Houston County

J. C. Cook and Shell Oil Co.'s No. 1 B T. Masters, Levina Carpenter Sur., ¼ mi. NW of Grapeland pool: 10,000-ft test. C.O. 6,060 ft.; flwg. 1 B.O. and considerable gas; S.I. 6,060 ft.; est. 70,000,000 cu. ft. gas.

J. C. Wynne et al's (Shell Oil Co., Inc.)

No. 1 G. E. Dorsey, M. Sallas Sur. 2½ mi. S of Percilla; E 102 ac. of tr., 10,000-ft. test. Drlg. 8,127 ft.

Kaufman County

T. G. Shaw, Tr.'s No. 1 Angus Wynne, B. S. Newman Sur., 8 mi. E Kaufman; lower Trinity test. Loc.

Leon County

Lone Star Gasoline Co.'s No. 2 A. Jones, J. M. H. Jones Sur., Buffalo gas area. Tstg. 2,985 ft.; no free oil.

Limestone County

Peyton Bros.' No. 1 Harris, P. Varella Sur. P.B. 3,200 ft.; W.O.C.

J. J. Tyrell's No. 1 A. G. Easterling, J. L. Chavert Sur., 11 mi. E of Groesbeck. S.D. 2,130 ft.

McLennan County

T. M. Smart's No. 1 J. W. Mann, C. O'Campo Sur., 4 mi. S of Waco. S.D. 750 ft.

Nacogdoches County

C. W. Burnaman's No. 1 W. L. Burnaman, H. Hamby Sur., ½ mi. SW of Etoyle. Loc.

Navarro County

J. R. Bunn's No. 1 A. Stroeder, J. White Sur., 3 mi. SE of Navarro. Drlg. 700 ft.

C. F. Carter's No. 1 Allen Eden, M. Shire Sur., 2 mi. NE of Angus. S.D.O. 1,201 ft.

Rusk County

Jeff Bolton's No. 1 Hall Wood, J. I. Sanches Sur., 2½ mi. NW of New Salem. Drlg. 2,180 ft.

Marietta Corp.'s No. 1 E. B. Alford, Thos. Howeth Sur., 1 mi. S of Pinehill. R.U.

A. O. Whittington's No. 1 Kangerga Bros., Ign. Castro Sur., 9¼ mi. N and slightly E of Pirtle. Spdg.

Red River County

Dave Flesch's No. 1 Bailey, J. Robbins Sur., 1 mi. W of Bagwell. S.D. 3,415 ft.

Kansas-Oklahoma Pet. Corp. No. 1 R. H. Ringwald, A. Moore Sur., 3 mi. W of Manchester. S.D. 1,000 ft.

Smith County

Shell Oil Co., Inc.'s No. 1 H. Campbell, P. Lively Sur., 1½ mi. N of Chapel; 9,500-ft. test. T. Paluy 5,533 ft.; T. Glen Rose 5,818 ft.; drlg. 6,610 ft.

Sun Oil Co.'s No. 1 E. B. Huddle, Wm. Dickerson Sur., 2 mi. S of discovery dist. producer in Chapel Hill area. M.I.M.

Trinity County

Gossage et al's No. 1 First Natl. Bnk., B. F. Wright Sur., S of Trinity. R.U. and S.D.

Van Zandt County

R. E. Lee's No. 1 M. L. Dubose, J. Stockwell Sur., 3 mi. SW of Canton. M.I.M.

NORTH TEXAS WILDCATS

Archer County

L. T. Burns' No. 1 J. Penartz, Sec. 19, Clark & Plumb Sur., Blk. 4. Drlg. 4,687 ft.

L. B. Burns' No. 1 H. Wilmut, Lot 13, G.N. Smith Sur., Abst. 393 (4,400-ft. semiwildcat). Flwd. 150 B.O. in 3 hrs., 4,376-96 ft.; showed S.W.; P.B. 4,384 ft.; trying to s.o. wtr.

Continental Oil Co. and Harry Hines' No. 1 J. L. Anderson, Blk. 23, Anderson Ranch subd. 4,002-ft. dry hole; D.D.

W. B. Hamilton's No. 5 C. E. Graham, J. D. Young Sur. A-1249. 6⅝-in. 5,205 ft.; P.B. 4,930 ft.; perf. csg. 4,750-70 ft.; treated 1,000 gal.; tstg.

Waldo E. Stephens et al's No. 1 Hattie B. Adae, SE part of Blk. 7, Palo Pinto Co. Sch. Lds., 3 mi. SE of Griffin pool. Set 10-in. 100 ft.; drlg. 4,660 ft.

Clay County

L. T. Burns No. 1 J. T. Pickett, W. W. Yearly A-745. 6⅝-in. 4,430 ft.; O.S. 4,430-44 ft.; P.B. 4,380 ft.; drld. out to 4,450 ft.; pmpg. est. 20 B.O. and 15 B.W. daily.

Continental Oil Co. et al's No. 1 O. O. Ross, W. Walker Sur. A-703. Set 158 ft. 10-in.; cg. oil in lime 5,350-5,400 ft.; 6⅝-in. 5,342 ft.; treated 8,000 gal. acd. 775 bbl. wtr.; 1,000 lb.; flwd. over drk.; 1 hr., 35 min., till S.I.; rng. tbg.

Frabor-Hodges and Sinclair Prairie Oil Co.'s No. 1 Scaling, G. P. Meade Sur., Abst. 928. Drlg. 4,597 ft.

Shell Oil Co., Inc.'s No. 1 M. L. Henderson, 6,000-ft. test, in Blk. 2605, T. E.&L. Sur. Drk.

Cooke County

Big Indian Oil Dev. Co.'s No. 1 M. P. Morton, SW cor. Sec. 1, E.T.R.R. Sur., Abst. 365. Drlg. 2,195 ft.

Heydrick et al's No. 1 W. Franklin, A. Rodiquez Sur., Abst. 851. Spd. and S.D.

Cottle County

J. E. Burns et al No. 1 J. E. Moss, Sec 5, Blk. L, A. Forsythe Sur. Jnkd. 225 ft.; skd. 20 ft. S; S.D. 1,823 ft.

Denton County

Jones Drlg. Co.'s No. 1 H. K. Armstrong, L. Moore Sur., Abst. 824. S.S.O. 1,626-32 ft.; D.S.T. 30 min.; filled up 980 ft. oil; rng. 5-⅛-in. to 1,608 ft.

Foard County

Foster Pet. Corp.'s No. 1 E. M. Gamble, 4,500-ft. test; E. 180 ac. of S½ Sec. 13, Blk. A, H.&T.C. Sur. Drlg. 2,910 ft.; had gas sd. 2,300-29 ft.; est. 5,000,000 cu. ft. gas.

Hardeman County

Carter & Taylor's No. 1 Norton, NW cor. 91-ac. tr. in Blk. 3, Robt. Young Sur., 16 mi. N of Quanah. S.D. 256 ft.

Jack County

J. B. Cooper and Paul P. Steed's No. 1 Mathis, J. H. Nesmith Sur., Abst. 1562. Loc.

Harper Pet. Corp. No. 2 S. V. Vanhooser, Abst. 1926, J. W. Morrow Sur. T.D. 2,030 ft.; S.D.O.

Jim Lanning's No. 1 A. T. Smith, NE cor. Sec. 2, S.P.R.R. Sur., Abst. 2175. Drlg. 400 ft.

Pitzer & West's No. 1 Sloan, Sec 2786, T.E.&L. Sur. Rng. 8-in.; cg. dry sd. 2,770-80 ft.; S.D.O. 3,350 ft.

Montague County

W. H. Gant and Continental's No. 1 J. L. Brown, Sec. 58, E.T.R.R. Sur. T.D. 6,897 ft.; rng. Schlm.

Wm. J. Payne's No. 1 T. M. Baker, NW¼ Lot 42, W. J. Wells Sur., Abst. 844, 5,000-ft. test. Loc.

Wichita County

Bridwell Oil Co.'s No. 1 Fred L. Cone, SE cor. J. M. Sharp Sur., Abst., 262. Drlg. 3,542 ft.

Wilbarger County

Rogers & Cavin No. 1 A. P. Morris, Sec 3, Blk. 14, SW of Harrold. S.D. 2,373 ft.; wtr.

Wise County

W. F. Holifield et al's No. 1 J. Redell, Rebecca Coleman Sur., Abst. 155, 2 mi. E of Bridgeport. Moved off spdr.

H. M. Muse No. 1 F. F. Kaker, Blk. 16, Matagorda Co. Sch. Ld. Pits.

Young County

Burns Oil Co. (Floyd Scott) No. 1 W. J. Rhoades, SW B. F. Kutch Sur. Abst. 1333. Drlg. 2,000 ft.

Cosden Pet. Corp.'s No. 1 W. E. Steele est., NE part of R. M. Burton Sur., Abst. 8, 7 mi. SE Graham. 4,200-ft. test. Drlg. 2,371 ft.

H. W. Dyer's No. 1 M. G. Cheney, M. L. Terry Sur., Abst. 1261. Drlg. 410 ft.

L. A. Long's No. 1 J. S. Williams, 3,000-ft. test in NE part of S. H. James Sur., Abst. 1465. Drlg. 1,600 ft.

K. R. March's No. 1 Ed. Burton, NE cor. Blk. 99, J. A. True Sur., Abst. 1640. 4 mi. SE Graham, 4,250-ft. test. Spd.

A. T. Strong et al's No. 1 E. C. Stovall, Sec. 2946, T.E.&L. Sur. (4,800-ft. test). Drlg. 1,775 ft.

Taubert & McKee Drlg. Co.'s No. 1 Shanafelt, P. Pointevent Sur., Abst 1309. 6⅝-in. 4,012 ft.; treating 2,000 gal. acd. 4,437-4,500 ft.; P.B.; H.F.W. 4,398-4,410 ft.; tstg.

EAST TEXAS

(Border Counties)

Marion County—Other

H. N. Binge's No. 1 W. P. Stiles, 950 ft. S, 4,900 ft. E NW cor., M. G. Nall Sur. Set 10-in. csg. 42 ft.; W.O.C. 45 ft.

M. D. Fitzwater No. 1 Mrs. Mary Duncan, Jesse Fitzgerald Sur. T.D. 2,558 ft.; swbd. and balled dry; tstg.

J. D. Reynolds' No. 4-B Terry est., 1,900 ft. SL, 200 ft. EL, W. Coore Sur. R.U.

J. D. Reynolds' No. 5 Terry est., W. Coore Sur. T.D. 2,359 ft.; W.O.S.R.

Marion County—Rodessa

Tippett Drlg. Co.'s No. 2 Howard, 540 ft. NL, 933 ft. SW No. 1, John Hanks Sur. Drlg. L. 5,438 ft.

Shelby County

W. H. Neel et al's No. 1 J. W. Hanson, C 64-ac. tr., A. Sanford Sur. M.I.M.

WEST CENTRAL TEXAS DISTRICT

Brown County

A. D. Bruce's No. 1 L. S. Mauldin, SW¼ Sec. 15, H.T.&B. Sur., Abst. 464. S.D. 1,691 ft. (may D.D.).

Kynaston & Cullisen's No. 1 L. A. Hill, SW¼ Sec. 35, H.T.&B. Sur. S.D. 1,000 ft.

Wilson Oil Co., Inc., No. 1 M. Bowden, Sec. 133, W. E. Gilliland Sur. S.D.O. 2,100 ft.

Coleman County

Kynaston-Culberson-Culberson & Bozeman No. 1 J. P. McCord, Sec. 159, J. W. Meeks Sur. S.D.O. 2,300 ft.

Concho County

Natural Resources Corp. No. 1 Armor Sec. 105, Blk. 72, T.&N.O. Sur. R.U. to D.D.

Coryell County

W. E. Crews' No. 1 S. C. Blanchard, W part of Wm. H. King Sur., 2 mi. SW of Mound, 5,000-ft. test. Loc.

Eastland County

Dobbs Oil Corp.'s No. 1 Pierce, 330 ft SL and 330 ft. EL of 214-ac. tract in Sec. 35, Blk. 2, H.&T.C. Sur. Drlg. 2,790 ft.

R. R. Groce's No. 1 J. M. Rush, Sec. 130, Blk. 3, H.&T.C. Sur. S.D.O. 1,728 ft.

F. S. Holden's No. 1 J. F. Nichols, L. A. McDonald Sur., Abst. 829. Drlg. 1,660 ft.

Lone Star Gas Co.'s No. 1 F. J. Kimmel, Sec. 87, Blk. 4, H.&T.C.R.R. Sur. S.D. for test 3,641 ft.; S.O. est. at 40 B.O.P.D.

J. L. Reeves No. 1 J. V. Parker, NW part of Wm. Van Norman Sur. Fag 3,077 ft.; S.S.O. 3,019-41 ft.; S.D.O. 3,077 ft.

W. A. Stiles et al's No. 1 H. F. Duncan, Sec. 10, Blk. 2, H.&T.C.R.R. Sur Pits.

Erath County

T. Gray's No. 1 C. Young Hrs., NW cor. of Stephen Smith Sur., Abst. 662 S.D.O. 89 ft.

T. G. Jackson No. 1 J. W. Taylor, Prater Sur., Abst. 1029, 4 mi. NE of Desdemona. S.D. csg. 2,400 ft.

J. F. Morissey et al's No. 1 R. J. Sikes, J. Hargrave Sur., 6 mi. N of Stephenville; 5,000-ft. test. S.D.O. 330 ft.

Fisher County

S. and D. Daube's No. 2 Bennett, NE¼ Sec. 51, Blk. 2, H.&T.C. Sur. S.D. test lime 3,687-3,704 ft.; swbd. 28 B.O. and 4 B.W. daily at 3,640 ft.; T.D. 3,705 ft.

Hamilton County

Wallace & Vickers' No. 1 C. C. Lund, J P. Bailey Sur. 51. S.D.O. 3,453 ft.

Haskell County

K. N. Nowels' No. 1 M. S. Pardue, SW cor. Sec. 1, S.F.I.W. Sur., 4½ mi. east Stamford. Drlg. 1,852 ft.

Jones County

Butler & Horne's No. 1 J. C. Thompson, Sec. 48, Blk. 18, T.&P. Sur. Prep. comp. est. 240 B.O.P.D.; 2,373-79 ft.

Danciger O. & R. Co.'s No. 1 B. P. Davenport, NE¼ Sec. 23, D.D.&A. Sur Drlg. 3,048 ft.

Fain-McGaha Oil Corp.'s No. 1 L. T Burns, S½ SE¼ Sec. 38, Blk. 15, T.&P. Sur. Putting on pump; P.B. to 1,940 ft.

Keeler's No. 1 Radford, SE¼ Sec. 20, Blk. 4, H.&T.C.R.R. Sur. S.D.O. 1,800 ft.

L. H. Pearson's No. 1 P. V. Nelson, SE¼ Sec. 186, B.B.B.&C. Sur. Loc.

Johnson County

Geo. C. Foster's No. 1 Pennington, C W 40 ac. of J. E. Pennington 247-ac. tr., ½ mi. SW of Cleburne; contract depth 3,500 ft. Loc.

Mills County

A. W. Tanner's No. 1 M. J. Ivy, M. Rhyne Sur., 2 mi. SW of Ebony; contract depth 1,450 ft. Loc.

Nolan County

Green & Owens' No. 1 Tipton, Sec. 43, Blk. 19, T.&P. Sur. Sat. from 5,135-38 ft.; 116 B.O. in 2 hrs.; est. 450 B.O P.D.; tstg. S.W. 5,170 ft.

Plymouth Oil Co. No. 1 F. M. McClure Sec. 49, Blk. 23, T.&P. Sur., 8,000-ft test. Drlg. 6,270 ft.

Palo Pinto County

J. Jones' No. 1 R. H. Gauldin, NW cor Sec. 1743, T.E.&L. Sur. Drlg. 918 ft.

Palo Pinto O. & G. Co.'s No. 1 F. A Johnson, Sec. 61, Burleson Co. Sch Lds. Drlg. 2,538 ft.

Parker County

Brown & Gardner Bros. No. 1 Gilbert T.&P. Sur., Abst. 1958. Drlg. 3,612 ft.

Shackelford County

Georgian Oil Corp.'s No. 1 Black ranch, C NE¼ of T.E.&L. Sur. No. 390, 10 miles NE of Albany, Ordovician test U.R. csg. 885 ft.; T.D. 1,600 ft.

Jones-Stasney & Groover-Rose's No. 1 Winnie Wentz, Sec. 13, Blk. 3, H.& T.C. Sur. Drlg. 1,900 ft.

Stephens County

Geo. E. Fagg No. 1 Richardson, Sec. 1 Blk. 31, S.P.R.R. Sur.; 4,000-ft. test S.O. 3,430-45 ft.; rng. csg. to test 3,940 ft.

Pitzer & West and Brazos-Young Oil Corp.'s No. 2-B N. G. Price, SE cor. E½ SW¼ Sec. 67, B.A.L. Sur. Rng. csg. 3,976 ft.; est. 1,000,000 to 2,000,000 cu. ft. gas in L. 3,970-76 ft.; fsg. tools 3,976 ft.

Wittmer O. & G. Co.'s No. 2 B. D. Loving, NE¼ Sec. 11, O.A.L. Sur. Making 7,500,000 cu. ft. gas, sd. 2,200-62 ft.; S.I.

Stonewall County

Shell Oil Co., Inc., No. 1 A. E. Smith, Sec. 143, Blk. 1, H.&T.C. Sur.; 6,000 ft. test. U.R. 3,450 ft.

Throckmorton County

Normandie Oil Corp.'s No. 1 Travis Co. Sch. Lds., Sec. 37, Abst. 254, 5,500-ft. test. R.U.

MISSISSIPPI

Attala County

Kosciusko Oil Co.'s No. 1 Jones, 600 ft NW cor. Sec. 5-15n-9e. Drk.

P. & M. Oil Co.'s No. 1 J. A. McMillin, 300 ft. SW cor., SE SE Sec. 26-13n-5e. Loc.

Chickasaw County

Jeva Winters' No. 1 W. C. Flaherty, SE cor. SE SW Sec. 8-13s-3e. Loc.

Choctaw County

Garland Anthony et al's No. 1 Ballard, SE cor. Sec. 8-18n-1e. Drk.

Copiah County

Triangle Drlg. Co.'s No. 1 W. W Broome, 153 ft. SW cor. SW SE Sec 1-10n-8e. T.D. 15 ft.; W.O. heavier rig.

Hinds County

Byrd-Frost et al's No. 1 Gaddis Farms, 275 ft. SE cor. SE SE Sec. 12-6n-3w Cd. 5,907-27 ft.; rec. 4 ft. gritty sdy. L. in Selma formation; reaming down to drill ahead.

Miss. Basin O. & G. Co.'s No. 1 Gaddis farms, 150 ft. E, 250 ft. S, NW cor. NW SW Sec. 17-7n-2w. T. Selma chalk 4,856 ft.; T.D. 6,145 ft.; hole bridged P.B. 1,052 ft. and sdtrkd.; drlg. 5,135 ft.

Itawamba County

G. C. Grasty et al's No. 1 Ky. Lbr. Co. 1,320 ft. E, 660 ft. S, C Sec. 7-10s-10e. Twisted off D.S., skdd. 24 ft. S and spd.; set 10¾-in. csg. 170 ft.; S.O. 1,500 ft.; T. Trenton L. 1,690 ft.; drlg. ahead 1,756 ft.

Issaquena County

E. B. Germany et al's No. 1 J. C. Mohanna, Sec. 13-18n-3e. S.D. 35 ft.

Locke & Mellard's No. 1 W. Gary, 660 ft. SE cor., NW Sec. 14-9n-6w. Loc.

Kemper County

M. R. Crabb et al's No. 1 W. T. Caldwell, NW SE Sec. 25-9n-15w. 10¾-in. csg 86 ft.; cor. T.D. 1,320 ft.; T.D. 1,640 ft.

Lamar County

Miss.-La. Oil Synd.'s No. 1 Simmons, 1,020 ft. N, 56 ft. W, SE cor. NE Sec. 32-3n-14w. T.D. 200 ft.; D.S. stuck.

Monroe County

Willmut G. & O. Co.'s No. 1 Roberts NW¼ Sec. 18-13s-17w. Drlg. hd. sd. and strks. blue sh. 1,421 ft.

Pike County

S. R. Crouch's No. 1 Cupit, 360 ft. N, 660 ft. W, SE cor. NE SW Sec. 25-2n-7e. Set 6-in. csg. 729 ft.; T.D. 864 ft.; W.O.C.

Prentiss County

Home Dev. Co.'s No. 1 Mrs. A. Allen, Sec. 8-7s-9e. S.D. 1,209 ft. (cor.).

Rankin County

Willmut G. & O. Co.'s No. 1 Boehle, NE NW Sec. 8-5n-2e. Drlg. 650 ft.

Sharkey County

Chas. W. Crader's No. 1 D. D. Wells, 600 ft. N, 860 ft. W, SE cor. NW Sec. 27-12n-7w. Drlg. sdy. sh. 39 ft.

Ralph E. Fair's No. 1 W. B. Houston est., NE NE Sec. 12-10n-7w. R.U.

Simpson County

Cleve Love No. 1 N. E. Gardner, SW cor. SW NE Sec. 1-10n-17w. S.D. 3,150 ft., Wlx.; R.U.; to D.D.

Wilkinson County

Louisiana Progress Oil Co.'s No. 1 A. M. Young, 792 ft. N, 88° 30' W SE cor., Sec. 40-4n-1e. Set 10¾-in. csg. 1,200 ft.; T. Vicksburg 3,190 ft.; T. Wlx. 5,201 ft.; T.D. Wlx. 5,750 ft.; D.&A.

Yazoo County

Conroe-Wilcox's No. 1 Stubblefield, Sec. 25-12-1w. Set 10¾-in. csg. 1,373 ft.; T. Wilcox 1,760 ft.; T.D. 3,601 ft.; S.D. repair rig.

Harry Hanbury et al's No. 1 Brooks, SW Sec. 17-10-2. Loc.

Edgar Johnson et al's No. 1 Broomfield, SE SE Sec. 2-10-3. Partly R.U. and S.D.

Jones & O'Brien Bros.' No. 1-B Stevens, C SW SW Sec. 12-10-3. Eutaw sd. 4,862-82 ft.; set 7-in. csg. 4,860 ft.; T.D. 4,887 ft.; comp. 426 B.P.D.; T.P. 180 lb.; C.P. 20 lb.

Jones & O'Brien's No. 2-B Stevens, C NW SW Sec. 12-10-3. M.I.M.

Plains Prod. Co.'s No. 1 Milner, 546 ft. N, 660 ft. E, SW cor. SW SW Sec. 7-10-2. R.U.

Fullwood Purifoy's No. 1 O'Neal, 660 ft. N, 300 ft. W, SE cor. SW¼ Sec. 22-10-3. Loc.

T. B. Slick's No. 1 W. S. Atkinson, 629 ft. S., 556 ft. E, NW cor. NW NE SW Sec. 3-10n-3w. No Woodruff sd.; T. Eutaw 4,638 ft.; cg. Eutaw 4,917 ft.

Union Prod. Co.'s No. 2 J. Stevens, C NW NE Sec. 13-10-3. R.U.

Union Prod. Co.'s No. 2 G. C. Woodruff, 3,220.5 ft. S, 680.7 ft. E, NW cor. SE Sec. 13-10-3. (Cor.) T.D. 4,578 ft.; T. chalk 4,435 ft.; T. oil sd. 4,535 ft.; set 7-in. csg. 4,529 ft.; comp. 557 B.P.D., 20/64-in. ck.; T.P. 165 lb.; Woodruff sd. 4,535-59 ft.

Union Producing Co.'s No. 3 Woodruff, Sec. 18-10n-2w. Drlg. sh. and bldrs. with strks. L. 1,816 ft.

Union Prod. Co.'s No. 4 Woodruff, C NW SE Sec. 13-10-3. 10¾-in. csg. 1,523 ft.; T.D. 1,530 ft.; W.O.C.

Yazoo Refinery, Inc.'s No. 1 Frank Brooks, W½ SE NW Sec. 17-10-2w. Set 16-in. csg. 118 ft.; S.D.

MISSOURI

Buchanan County

Miller et al's No. 1 Carrough, C SE SE Sec. 24-57-35w. Miss. 1,201 ft.; T.D. 1,515 ft.; to run pipe.

(Continued on Page 119)

Personal Paragraphs

DUNCAN A. BROWN, vice president, Root Petroleum Co., Shreveport, La., is on a business trip through the Middle West and East.

CHARLES LANGFORD, Houston, Tex., engineer for the League City Field Operators Association, has been nominated chairman of the Gulf Coast chapter of the American Institute of Mining and Metallurgical Engineers for 1940. He succeeds M. T. HALBOUTY, of the Merit Oil Co. J. U. TEAGUE, superintendent of the Hogg Oil Co. at Houston, was nominated to continue as vice chairman, and ALEXANDER DUESSEN was renominated secretary-treasurer. The nominations were made at the chapter's meeting last week. Election of the officers will be held January 2.

W. A. REITER, chief geologist for the Fohs Oil Co., Houston, Tex., delivered a paper on "Microscopic Fossils in Crude Oil" before the weekly meeting of the Houston Geological Society last week.

L. R. McFARLAND, geologist with Magnolia Petroleum Co., heads the membership committee of the newly organized Mississippi Geological Society. At its first regular meeting held in Jackson, he submitted a draft of constitution and by-laws, and under the direction of PAT MEHOLIN, Sells Petroleum Co., program chairman, H. M. MORSE, state oil and gas supervisor and URBAN HUGHES, consulting geologist, addressed the 45 members present.

R. W. SHAW, Rio Bravo Oil Co., Houston, Tex., spent several days in Shreveport, La., on business last week.

J. W. ROBINS and J. W. OBREY, Fort Worth, Tex., have received papers of incorporation for their new independent operating partnership.

CARL BRILEY, with the International Petroleum Corp. at Talara, Peru, South America, is spending a portion of his vacation visiting friends in Wichita Falls, Tex., and will later go to Tulsa.

ARTHUR R. CAMPBELL, secretary of the Louisiana-Arkansas division of Mid-Continent Oil and Gas Association, is in charge of the Cole committee field trip through Arkansas, Louisiana and Texas. He met the party at Mattoon, Ill., last week and will attend the hearing in New Orleans, La., before heading the party northward on the field trip.

W. E. HAGGARD, general superintendent of the land department for Continental Oil Co. at Houston, Tex.; GLEN C. CLARK, head of the geology department, Ponca City, Okla., last week were inspecting the company's North Texas properties in the vicinity of Wichita Falls, Tex. They were accompanied by D. D. CHRISTNER and F. D. BALLENTINE of Fort Worth, heads of the Texas and New Mexico division of the geology and land departments, respectively.

CARL SHORT, drilling contractor of Dallas, Tex., has opened a branch office in Houston, Tex., with STEVE C. WOMACK in charge.

W. B. SINCLAIR, geologist for Amerada Petroleum Corp., Centralia, Ill., has been transferred to Jackson, Miss.

J. B. WEBB, formerly on the geological staff of the Hudson's Bay-Marland Oil Co., has been appointed chief geologist of the Anglo-Canadian Oil Co. of Calgary, Alta. He succeeds J. GRANT SPRATT, recently elected president of the company.

EDWARD C. FRY of Shell Oil Co., Inc., who has been drilling foreman of Los Angeles Basin fields, has been appointed drilling foreman for the San Joaquin Valley division with offices in Bakersfield, Calif., and in his new capacity will have charge of drilling operations on deep wells.

FLOYD V. STUDER, geologist of Amarillo, Tex., will discuss the prehistory of the Panhandle at the December meeting of the Panhandle Geological Society at Amarillo on December 14. Mr. Studer is an outstanding archeologist of that part of the state.

W. R. RAMSEY, president, Ramsey Petroleum Corp. of Oklahoma City, Okla., expects to visit his Los Angeles, Calif., offices by the first of the year to consider future development plans of California holdings. W. E. RAMSEY, executive vice president, has been making his headquarters in Los Angeles, Calif., for the past 2 years.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Robert H. (Bob) McGarvey, refiner in Sumatra, Mexico, and the United States in the course of his business career, dies at Lakewood, N. Y.

Current daily production in that field alone of the largest Cushing, Okla., operators is: McMan Oil Co., 40,700 bbl.; Prairie Oil & Gas Co., 19,000 bbl.; John H. Markham, Jr., 18,500 bbl.; Kathleen Oil Co. (Sinclair), 18,395 bbl.; Producers Oil Co. (Texas Co.), 17,850 bbl.; C. B. Shaffer, 15,200 bbl. The field is producing 252,000 bbl. a day.

Sour Lake with a production of 15,400 bbl. per day is the largest producing pool in the Gulf Coast district. The once great Spindletop field is down to 900 bbl. a day.

Mid-Continent crude prices range from 45 to 80 cents per barrel. A flat price of 55 cents is paid in Kansas and Oklahoma, outside of Healdton, which brings 50 cents per barrel.

20 YEARS AGO

The first authentic report on the use of fuel oil by railroads shows that United States railroads in 1918 used 80,000,000 bbl. of that product.

Anglo Persian Oil Co. increases its capital to 20,000,000 pounds from 5,000,000 pounds.

Mid-Continent crude-oil prices vary from $1.15 to $2.50 per barrel. Oklahoma and Kansas oil (excepting Healdton), sells for $2.50.

10 YEARS AGO

Mid-Continent crude, now on a gravity basis, sells from 70 cents to $1.85 per barrel. The average price in Oklahoma and Kansas is $1.50 per barrel (for 37 gravity).

Dr. J. A. Shaw has been made supervisor of the Minerals Division of the Louisiana Department of Conservation. The appointment was made by Robert Maestri, commissioner of conservation, appointed by Gov. Huey Long.

MONROE H. GOODE, independent operator of Dallas, Tex., is the author of an article on deer hunting in the current issue of the Southern Sportsman.

REESE H. TAYLOR, president of Union Oil Co., has been reelected a member of the board of directors of the Federal Reserve Bank of San Francisco, Calif.

O. D. ROBINSON of Pittsburgh, Pa., president of the Republic Oil & Refining Co., was a business visitor to the company's offices at Houston, Tex., last week.

J. R. GISBURNE, geological scout for Shell Oil Co., Inc., at Amarillo, Tex., is being transferred to the production department at Pampa, Tex., this week. He is being succeeded by JAMES TICHY of the Pampa production office.

J. A. MOLLER, division superintendent, producing department, Los Angeles Basin, of Texas Co., has been promoted to general superintendent of all California districts and has moved his office from Long Beach to Los Angeles, Calif., where he has assumed his new duties.

LAWRENCE VANDER LECK, chairman of the Central Committee of California Oil Producers; J. R. PEMBERTON, California oil umpire, and L. L. AUBERT, chairman of the allocation subcommittee of the Central Committee, were appointed a committee of three to represent California at New Orleans, La., at the investigation of the oil industry by the Cole congressional subcommittee.

WITHERS CLAY, consulting geologist of Mount Vernon, Ill., has moved to Carmi, Ill.

E. L. De GOLYER will become a member of the University of Texas' geology faculty February 1.

ROY W. JOHNS, formerly on the legal staff of Swift & Co., has been appointed general counsel of Atlantic Refining Co., Philadelphia, Pa. ROBERT H. COLLEY, president of Atlantic, announced the appointment last week.

HENRY N. TOLER, Southern Natural Gas Co., was elected president of the newly organized Mississippi Geological Society, recently formed in Jackson. URBAN HUGHES, consulting geologist, is vice president and E. N. McGLOTHLIN, Gulf Refining Co., is secretary-treasurer.

ALBERT CLICKSCALES, consulting geologist, has been elected president of the Oklahoma Geological Society at its annual meeting, succeeding DAN O. HOWARD of the Oklahoma Conservation Department staff. CLYDE H. DORR, with Hall-Briscoe, Inc., is the new vice president, and F. MABRY HOOVER, with Cities Service Oil Co., is secretary-treasurer.

DANA HOGAN, president; ALLEN A. JERGINS, vice president, and THOMAS W. McMANUS, secretary of the San Joaquin Valley Oil Producers Association, were reelected to their respective offices at the annual meeting in Bakersfield, Calif., last week. E. E. PYLES, ALFRED L. MARSTEN, WILLIAM KECK, JR., R. A. BROOMFIELD, JR., Allen A. Jergins, Thomas W. McManus and Dana Hogan were elected members of the board of directors at the same meeting.

Everybody Knows Pete

Everybody in the Southwest interested in either oil or sports knows Pete, or if you like dignity, Bonneau Peters. He has been chief scout for Standard Oil Co. of Louisiana 20 years, and he recently became one of the production department's 30-year men. He is president of the Shreveport Sports, in the Texas League, and for 20 years he has busily proselyted players for the Centenary College team in Shreveport, La., his home town.

BONNEAU PETERS

Pete — oh, all right, Mr. Peters—was born in Louisiana 52 years ago and passed his boyhood in Robeline, that state. Starting out on his own at 20, he held various jobs until 1909, when he went to Shreveport and had his name put on Standard of Louisiana's payroll, where it has been ever since. Along with gaging and other work he scouted, and in 1919 he was appointed chief scout.

Love for baseball dates back to high school days. After Pete began working he served the Trees City Standard club as captain and manager. He was instrumental in reviving the Shreveport club, which, with backing of oil men and the Chamber of Commerce, bought the Galveston franchise in the Texas League and rounded out its second season in 1939. Pete was named president of the reorganized club, a non-salaried post. In addition to his work and his hobby he is devoted to his home. Mrs. Peters was formerly Irene Hughes, of Montgomery, La., and Bonneau, Jr., is attending school.

T. J. STEUART, of the Washington, D. C., office of the Independent Petroleum Association of America, is recovering from a week's illness due to food poisoning.

F. W. WEBER of Shanghai, China, representative of Socony-Vacuum Oil Co., Inc., at that point, will leave Los Angeles, Calif., this week for his office after a combined business and pleasure trip to the United States.

DANA MILLER, vice president of the Esperanza Petroleum Co. in Venezuela, sailed from New York last Friday en route to Venezuela. He was accompanied by EDGAR BORBECK of the same company.

FREDERICK GERALD RAPPAPORT, general manager of the British Controlled Oilfields, Ltd., in Maracaibo, Venezuela, returned to his South American headquarters late last week. He was accompanied by Mrs. Rappaport.

E. C. EMERY and T. P. THOMPSON, JR., prominent Bradford producers, and OTTO KOCH, president of the Kendall Refining Co., have been elected directors of Bradford's Pennhills Country Club. Among the officers reelected is J. B. FISHER, executive vice president of the Kendall Refining Co., who was reelected secretary.

S. L. MEYER, Bradford-Penn Refining Co., Clarendon, Pa., was elected president of the Western Pennsylvania Refiners Traffic Association at a meeting in Oil City, Pa. Other new officers are: C. H. LINDBERG, Conewango Refining Co., Warren, vice president; E. E. BRUMBERG, James S. Berry Sons' Co., Inc., Oil City, secretary, and GEORGE W. EBERT, Quaker State Oil Refining Corp., Oil City, treasurer.

LEO WILMETH, sales manager, Hurricane Petroleum Co., Shreveport, La., is in Minneapolis, Minn., on business.

TORKILD RIEBER, chairman of Texas Co., and WILLIAM M. BREWSTER, manager of subsidiary and affiliated interests of the company in France, were passengers aboard the Atlantic Clipper when it left Port Washington, L. I., December 8 en route to Lisbon by way of Bermuda and the Azores. MISS RUTH RIEBER and her friend. DOROTHY MACKAILL, the former actress, were also aboard.

W. M. "BUDDY" O'ROARK, Standard Oil Co. of Louisiana, was reelected president of the Shreveport Oil Scouts at that group's meeting last week. Other new officers are: J. T. McATEER, Gulf Refining Co., vice president; O. J. ROBICHEAUX, Arkansas Fuel Oil Co., secretary-treasurer, and executive committeemen: JAKE BRANDT, Texas Co.; FRANK CASTLEBERRY, Atlantic Refining Co.; GUY ADSIT, Phillips Petroleum Co.; W. H. MARSHALL, Union Producing Co., and HARRY L. NORRIS, Sinclair Prairie Oil Co.

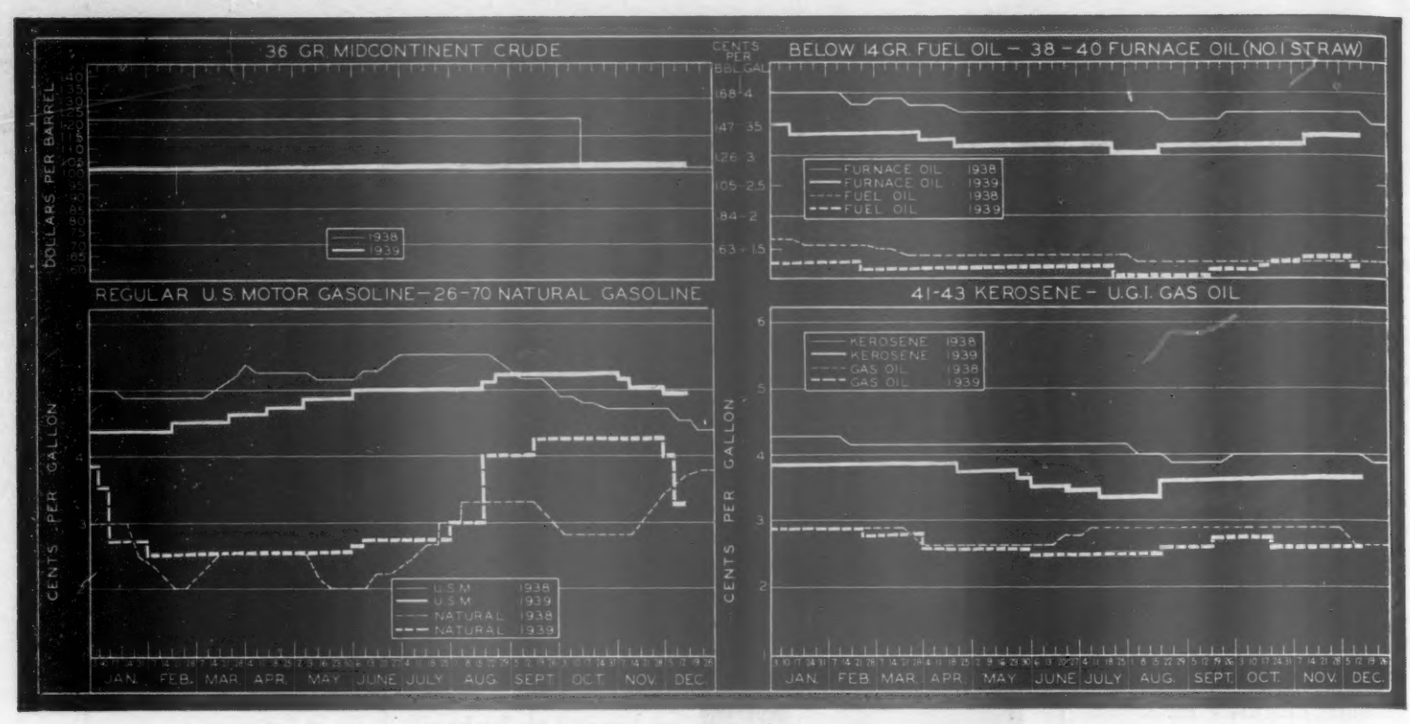
J. J. RUSSELL, district geologist for Sinclair Prairie Oil Co., at Wichita Falls, Tex., has been transferred to Columbus, Ohio, to take charge of the Northeast Ohio district. L. L. HARDEN, district geologist at Eastland, Tex., will take over Mr. Russell's duties with the combining of the North and West Central Texas districts.

Shifts: W. M. PECK, manager, Pure Oil Co., from Saginaw, Mich., to Houston, Tex.; BEN BANNER, Banner Oil & Gas Co., from Fort Worth, Tex., to Jackson, Miss.; J. V. TERRILL, geologist, Gulf Oil Corp., from Amarillo, Tex., to Midland, Tex.; E. E. LAUGHNER, president, Laughner Oil & Gas Co., from South Heights, Pa., to St. Petersburg, Fla.; WILLIAM C. FOWNES, JR., Shamrock Oil & Gas Corp., from Oakmont, Pa., to Pinehurst, N. C.; W. C. ADAMS, geologist. Deep Rock Oil Corp., from Oakdale, La., to Tallulah, La.; JAMES B. HAMMOND, president, Hammond Oil Co., from Mobile, Ala., to Meridian, Miss.; P. D. BLACKBURN, superintendent, Magnolia Petroleum Co., from Oilton, Okla., to Drumright, Okla.; W. H. MATTHEWS, engineer, Magnolia Petroleum Co., from Oilton, Okla., to Drumright, Okla.

EARL GRIFFIN, district production superintendent for Phillips Petroleum Co. at Odessa, Tex., has been transferred to Oklahoma City, Okla., where he will assume the same duties. He will be succeeded by M. L. ATKINSON, district superintendent at Seminole, Okla.

ELMER F. SCHMIDT, Lone Star Gas Co., vice president and operating manager, has attained the goal of every golfer—a hole-in-one, at the Dallas Country Club on the 132-yard fourteenth hole. The ball hit 3 ft. short of the cup and trickled in. The other members of the foursome were L. L. DYER, CHESTER L. MAY and D. A. HULCY.

H. C. WEISS, president of the Humble Oil & Refining Co., Houston, Tex., and GEORGE A. HILL, president of the Houston Oil Co., Houston, addressed preinaugural conferences held at the University of Texas at Austin last week, preceding the inauguration of PRESIDENT DR. HOMER PRICE RAINEY. Mr. Weiss gave his views as to how the university might help in the development of the state's natural and human resources, while Mr. Hill suggested elements essential to the state's social and economic developments.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Natural Gasoline Tumbles in Group 3 Area; Motor Fuels Gain Slightly

By T. F. SMILEY

THE Group 3 natural-gasoline market, which had been staggering noticeably, fell flat on its back this week and looked as though it might roll farther downhill. Refinery gasoline displayed a faintly improved tone. Little change was recorded by the fuel oils, lubricants, and wax, all firm.

Natural-gasoline quotations underwent further hammering when the smaller manufacturers, without storage facilities for swelling stocks, began looking around anxiously for places to put distress material. Prices dropped perpendicularly. Manufacturers with adequate tankage, who usually at this time of year need all their output to meet current requirements of refiners, have been running some of their material to storage rather than let it go at the prices offered. In the present state of the motor fuel market manufacturers do not care to buy natural, which they would have to add to their own material going to storage. So a situation has arisen in which small plants with limited storage are competing with each other for outlets, with the buyer naming the price.

Shortage of Boats Continues

Weakness of the refinery-gasoline market was a factor in the extreme weakness of the naturals. The principal cause of the sharp drop in the demand for natural gasoline continued to be the shortage of boats for transportation of material to the East Coast. Among 35 British and French vessels reported to have arrived under convoy at the Gulf recently were several tankers, and it was said some of these would start back with part-cargoes of natural gasoline.

The moderately better character of the motor-fuel market was apparent in the fact that buyers, though still able to pick up bargains, had to abandon any take-it-or-leave-it attitude. Sellers were naming the prices, a privilege some of them had not enjoyed in months.

It is generally conceded that to obtain the reasonable profit to which they are entitled Mid-Continent refiners should be receiving 6 cents a gallon for their regular-grade gasoline. They are getting 4⅞ cents—if they are lucky or if they have developed the faculty of saying "No!" in a way that carries conviction.

Refined Oil Market Barometer

Natural gasoline much weaker. Moderate improvement in gasoline observable in most areas east of California, but market still soft. Light fuel oils increasingly tight on East Coast; steady in interior regions, though warm weather prevents advance in quotations. Wax scarce and most manufacturers well sold up. No falling-off in demand for lubricating oils and prices firm.

MID-CONTINENT. Gasoline moderately improved. Naturals weak. Wax and lubricants firm.

EAST COAST. Fuel oils increase strength. Gasoline in slightly better position.

GULF COAST. Gasoline stocks rising and no relief in sight. Lubricants tight.

PENNSYLVANIA. Gasoline soft. Lubricating oils holding. Wax in heavy demand.

CALIFORNIA. Gasoline soft. Fuel oil slightly higher. Warm weather hurting naturals.

CHICAGO. Gasoline somewhat firmer. Cold weather will create strong fuel-oil market.

Some refiners who have been doing their best to stabilize a stumbling market express resentment over the disorder and business loss that have resulted from a relatively small quantity of gasoline being dumped for whatever it might bring. They point out that at the peak of the 1939 motoring season they were not able to get even the 5½ cents that ruled for a few weeks in 1938.

Quantity of Material Doubted

"I don't believe the quantity of gasoline that is being sold daily at the ridiculously low prices reported is as large as the volume which we ship each day and for which we are getting the published prices," declared the sales manager of an important independent refinery. "A little more backbone on the part of refiners who happen to be pressed for outlets, a little more steadfast refusal to grant absurd concessions just because somebody else is said to have done it, would put this market on its feet. If our customers and those of other refiners who are in business to make a decent profit were to turn to these price cutters for their requirements they could get only a small fraction of the material they need. They know we are not asking anything unreasonable. They know there isn't enough of this cheap stuff available to supply their wants. And they stay with us."

Refiners who complain about the disastrous effects of price cutting are not blind to other and more basic factors in the current market weakness—mounting stocks and unwarranted runs to stills—but they insist that in spite of fundamental difficulties conditions in the Mid-Continent are sufficiently favorable to support a fairly profitable market if ruinous price cutting were eliminated.

Fuel Oils Continue the Feature in Atlantic Coast Markets

By H. STANLEY NORMAN

NEW YORK, Dec. 12.—Fuel oils continued to feature petroleum markets in the northeastern territory last week. The tank-car advances of the previous week were extended in most cases to the tank-wagon trade, giving the fuel-oil market a completely revised foundation in this section of the country.

Advances of a tenth of a cent per gallon in the tank-car market for No. 2 fuel oil and kerosene were followed early in December by increases of 0.15 to ¼ cent per gallon to the tank-wagon trade. The advance of 0.15 cent per gallon on tank-wagon quotations for kerosene, No. 2 and No. 4 fuel oil in northern New Jersey districts became effective December 2, but southern New Jersey points were not raised until December 6. The new quotations for tank-wagon delivery are 7¾ cents per gallon for No. 1 (kerosene); 6¾ cents per gallon for No. 2 and No. 4 fuel oil in all sections of New Jersey.

Similar advances in the New York market were made last week. Current quotations for burning oils are generally at the maximum of contracts executed between suppliers and consumers late last summer.

Distributors report that stocks of light burning oils are in strong hands at the primary markets and that it is practically impossible to locate supplies at figures off current spot quotations. Tightness of the primary market conditions and the comparatively brisk demand, coupled with continued high quotations by tanker owners, place the fuel-oil market in this section in an abnormally strong position. The current market is practically devoid of the customary tank-wagon price cutting present at this season of the year when consumption is just swinging into winter stride.

Temperatures and weather conditions in this section of the country have been comparatively mild so far this winter, which contributes to tardy advancement of prices. Subfreezing temperatures have been the exception in the New York vicinity so far. Even with comparatively light domestic demand, some suppliers are reporting difficulty in extending full service to contract customers. Part of the difficulty is the result of a rush on the part of consumers to fill their available storage space with fuel before the midwinter tank-wagon prices became established.

Advances of a quarter of a cent per gallon in the tank-wagon prices of No. 2 and No. 4 fuel oil were posted December 6 by Standard Oil Co. of New Jersey at Baltimore and Washington, D. C. At Baltimore the new prices are 7 cents for No. 2 fuel and 6½ cents for No. 4 fuel oil. At Washington both No. 2 and No. 4 fuel oil are quoted to the tank-wagon trade at 7¼ cents per gallon. The unchanged tank-wagon price on No. 1 fuel at Baltimore is 7¼ cents and at Washington 7½ cents per gallon.

There has been practically no change since the latter part of November in the export petroleum trade, according to refiners in this section. Volume of shipments to foreign countries tapered off slightly from the middle of November on, until the export demand dipped below normal for the last 10 days or 2 weeks of last month. There has been no revival of shipping activity and business from both the East Coast and the Gulf is said to be strictly along routine lines. Exporters believe the lull in foreign demand is the result of stock accumulations in several of the neutral as well as belligerent European countries caused by harsh restrictions on civil use without the anticipated increase in military consumption.

The theories of exporters appear to be reasonably well substantiated by the fact that several of the neutral nations have modified their September regulations permitting greater freedom in civil consumption, although machinery for clamping the lid tight has been preserved to meet any unforeseen emergency.

Motor-fuel prices in the northeastern territory are generally unchanged, although a few suppliers scattered at various points along the North Atlantic Coast have lifted the low side of the market in line with the bulk of volume. Suppliers are rather general in asking 6¾ cents per gallon for tank-car delivery of 65-octane plus motor fuel at eastern-coast refineries and terminals. One or two distributors are still accepting business at Philadelphia and Baltimore at 6½ cents. The tank-car price generally quoted in New York on kerosene is 5.2 cents per gallon, which reflects the advance of November 29 amounting to a tenth of a cent. No. 2 and No. 4 fuel oil in tank cars is generally held at 4.7 cents per gallon with deliveries via barges obtainable at 4.6 cents.

While the industrial fuel oils maintain their strong market position there has been no price movement reported since contract terms for the first and second halves of 1940 were announced a few weeks ago. Bunker C and No. 6 industrial fuel oils are currently quoted at $1.15 per barrel at the refineries and terminals.

Movement and prices for scale wax in the western Pennsylvania and New York seaboard markets remain strong and current conditions compare favorably with those existing in the past 3 months. Prices continue at the peak of recent years. Most suppliers are asking 6¾ to 7 cents for the scale grades and report that even these figures have not produced buyer resistance. The high prices and firm demand for wax have caused a slight reaction in the western Pennsylvania refining district where stocks of light products are running ahead of seasonal demand, and prices are suffering accordingly. Several Pennsylvania refiners lowered their quotations on gasoline an eighth to a quarter of a cent per gallon on December 1. Plant operators are producing more light products than desired to satisfy customer requirements for lubricating oil and wax.

Lubricating-oil prices were generally unchanged last week, but one or two operators lifted the low side of the market about a cent per gallon. Refiners are quoting from 27 to 32½ cents per gallon for domestic shipments of 25 pour test, 200 viscosity, while the range for 150 viscosity is from 25 to 29 cents on neutral and 25 to 32½ for bright stock.

A. P. I. Weekly Refinery Statistics

Week ended December 9, 1939

	Capacity reporting (per cent)	Daily crude runs (bbl.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	571,000	18,271,000	10,824,000
Appalachian	87.3	117,000	3,222,000	707,000
Indiana, Illinois, and Kentucky	90.7	540,000	11,115,000	6,606,000
Oklahoma, Kansas, and Missouri	81.6	256,000	6,339,000	4,207,000
Inland Texas	50.3	120,000	1,667,000	2,157,000
Texas Gulf	90.0	791,000	11,401,000	11,539,000
Louisiana Gulf	97.8	109,000	2,696,000	2,663,000
North Louisiana and Arkansas	55.0	41,000	405,000	822,000
Rocky Mountains	54.2	48,000	1,112,000	573,000
California	90.0	497,000	15,568,000	91,416,000
Total reported	86.4	3,090,000	71,796,000	131,514,000
Estimated unreported	.....	370,000	5,400,000	3,060,000
*Estimated total	.....	3,460,000	77,196,000	134,574,000
*Estimated total previous week	.....	3,480,000	76,365,000	135,962,000
*December 10, 1938	.....	3,160,000	70,158,000	150,779,000

*Bureau of Mines, currently estimated.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATE)

Week ended December 2, 1939	234,161,000 barrels
Week ended November 25, 1939	231,811,000 barrels
Week ended December 3, 1938	271,065,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Gulf Coast Markets

HOUSTON, Tex., Dec. 12.— There was little change in the Gulf Coast markets this past week. Fuel oils, diesel, and lubricating stocks continue to show strength, although no further price increases have been made. Rising gasoline stocks continue to cause uneasiness.

Shortage of tankers for transportation to the East Coast and the increased demand for diesels and other burning oils, which has made refiners produce unwanted gasoline in order to supply contracts for the other materials, are two factors that have resulted in a weak market.

Lubricants are extremely tight, with only a small quantity of any grade available and all sellers are finding it difficult to fulfill contracts. Kerosene is still available at few places but can be obtained only in small lots and is sold at the seller's first quotation.

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of December 12, 1939

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline: Tank wag.	Gasoline: Dlr. tax	Kero. Inc. tax	Kero. tank wag.
Chicago, Ill.	15.1	13.1	4.0	10.0
Decatur	15.1	12.1	4.0	8.5
Joliet	15.1	13.6	4.0	10.0
Peoria	15.1	12.7	4.0	10.0
Quincy	14.9	13.4	4.0	9.8
Davenport, Ia.	15.1	13.6	4.0	‡10.0
Des Moines	14.9	13.4	4.0	‡9.8
Mason City	15.3	13.8	4.0	‡10.2
Duluth, Minn.	16.9	15.4	5.0	10.8
Mankato	16.5	15.0	5.0	9.9
Minneapolis	16.5	15.0	5.0	10.4
LaCrosse, Wis.	16.5	15.0	5.0	10.4
Green Bay	16.9	15.4	5.0	10.0
Milwaukee	16.3	14.8	5.0	10.2
Detroit, Mich.	13.6	12.1	4.0	7.6
Grand Rapids	13.9	12.4	4.0	9.7
Saginaw	14.8	13.3	4.0	9.3
Evansville, Ind.	16.6	15.1	5.0	†10.5
Indianapolis	16.8	14.3	5.0	†10.0
South Bend	16.8	15.3	5.0	†10.0
Fargo, N. D.	17.7	16.2	5.0	11.6
Huron, S. D.	17.0	15.5	5.0	10.9
Kans. City, Mo.*	14.4	12.9	4.0	8.0
St. Louis*	14.7	13.2	4.0	8.0
St. Joseph	14.4	12.9	4.0	7.9
Wichita, Kans.	13.3	11.1	4.0	7.9

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gal. or more, 1.5 cents off; minimum delivery 25 gal.

Stanolex Fuel Oil in Chicago

Effective December 12, 1939, f.o.b. Chicago tank-wagon prices: Standard heater oil, 1-99 gal., 9 cents; 100-149 gal., 8 cents; 150 gal. and over, 7.5 cents. Stanolex fuel oil No. 1, 1-149 gal., 8.25 cents; 150-399 gal., 7.25 cents; 400 gal. and over, 6.75 cents. Stanolex furnace oil, 1-149 gal., 8.25 cents; 150-399 gal., 7.25 cents; 400 gal. and over, 6.75 cents. Stanolex Grade A, 1-399 gal., 5.5 cents; 400 gal. and over, 4.5 cents. Stanolex Grade B, 1-799 gal., 5.25 cents; 800 gal. and over, 4.25 cents. Stanolex Grade C, 1-999 gal., 4.5 cents; 1,000 gal. and over, 3.5 cents.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline: Tank-wag. cons'r.	Gasoline: Di-vided dlr.	Kero. Inc. tax	Kero. tank wag.
Ohio points	16.0	15.0	5.0	*13.0

*Includes state tax of 1 cent.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline: Cons'r. tank car	Gasoline: Dlr. tank wag.	Kero. Inc. tax	Kero. tank wag.
Atl'tic City, N. J.	11.6	12.7	4.0	7.60
Newark	11.6	12.7	4.0	7.60
Annapolis, Md.	13.35	14.35	5.0	9.5
Baltimore	12.75	13.75	5.0	7.5
Cumberland	14.15	16.15	5.0	10.0
Wash'gton, D. C.	11.00	12.0	3.0	9.5
Danville, Va.	14.95	17.45	6.0	12.9
Norfolk	13.75	16.25	6.0	11.0
Petersburg	14.05	16.55	6.0	11.7
Richmond	14.05	16.55	6.0	10.7
Roanoke	15.25	17.75	6.0	11.0
Charles'n, W. Va.	14.55	17.05	6.0	12.6
Parkersburg	13.85	15.35	6.0	11.2
Wheeling	14.85	16.75	6.0	12.2
Charlotte, N. C.	16.90	18.40	7.0	11.8
Hickory	17.45	18.95	7.0	12.3
Mt. Airy	17.30	18.80	7.0	12.2
Raleigh	16.65	18.15	7.0	11.5
Salisbury	16.95	18.45	7.0	11.9
Charleston, S. C.	14.75	17.25	7.0	10.6
Columbia	15.60	18.10	7.0	11.5
Spartanburg	16.30	18.80	7.0	12.2

Price basis to Essolene undivided dealers: Dealer tank-wagon price less 0.5 cent per gallon. Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gal., consumer tank-wagon price at time and place of delivery; 100,000 gal. per year, consumer tank-car price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5 cent per gallon.

Effective January 16, 1939, in North Carolina the commercial consumer schedule became as follows: Single deliveries of 50 gal. or more, consumer tank-wagon price. Single deliveries of less than 50 gal., 4 cents per gallon over consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price, less .5 cent per gallon. The above policy also applies in South Carolina effective January 23, 1939.

Discounts for kerosene, 1 cent off tank-wagon price for 25 gal. or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline: Cons'r. tank car	Gasoline: Net wag.	Kero. Inc. tax	Kero. tank wag.
Atlanta, Ga.	21.0	18.0	7.0	9.0
Augusta	20.5	17.5	7.0	10.0
Macon	21.0	18.0	7.0	10.5
Savannah	19.5	16.5	7.0	9.0
Birmingham, Ala.	21.5	18.5	8.0	9.0
Mobile	21.5	18.5	9.0	3.0
Montgomery	22.5	19.5	9.0	11.0
Jackson, Miss.	19.5	16.5	7.0	10.0
Vicksburg	19.5	16.5	7.0	9.5
Jacksonville, Fla.	19.0	16.0	8.0	8.0
Miami	20.0	17.0	8.0	7.0
Pensacola	21.5	18.5	9.0	8.5
Tampa	21.0	18.0	8.0	8.5
Lexington, Ky.	19.5	16.5	6.0	10.0
Covington	18.0	15.0	6.0	9.5
Louisville	18.5	15.5	6.0	9.0
Paducah	18.5	15.5	6.0	9.0

Price basis to tank-wagon consumers: Effective January 4, 1937; 3 cents per gallon below tank-wagon price.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent. All are included in the table.

Pennsylvania and Delaware

ATLANTIC REFINING CO.

	Gasoline: Cons'r. tank car	Gasoline: Dlr. tank wag.	Kero. Inc. tax	Kero. tank wag.
Philadelphia, Pa.	12.0	13.5	5.0	10.0
Pittsburgh	13.0	14.5	5.0	10.5
Allentown	12.5	14.0	5.0	10.5
Erie	13.0	14.5	5.0	10.0
Scranton*	13.0	14.5	5.0	10.5
Altoona	13.0	15.0	5.0	10.5
Dover, Del.	...	14.0	5.0	10.5
Wilmington	...	13.5	5.0	9.75

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon.

*Voluntary discount of 1 cent allowed to dealers only.

Discount on kerosene, 2 cents per gallon off tank-wagon price on tank-wagon deliveries of 25 gal. or more at one time.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline: Tank truck	Gasoline: Serv. sta.	Kero. Inc. tax	Kero. tank wag.
San Francisco	17.5	18.5	4.0	11.5
Los Angeles	17.0	18.0	4.0	10.0
Fresno, Calif.	18.5	19.5	4.0	12.5
Phoenix, Ariz.	20.0	21.0	6.0	*17.5
Reno, Nev.	20.5	21.5	5.0	13.5
Portland, Ore.	20.0	21.0	6.0	13.5
Seattle, Wash.	20.0	21.0	6.0	†13.75
Spokane	21.5	22.5	6.0	†16.75
Tacoma	20.0	21.0	6.0	†13.75

*Includes 5-cent state tax. †Includes 0.25-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gal. and over, advance quantity discount extended at time of delivery, 3 cents. Service-station schedule applies on single deliveries less than 40 gal. On kerosene in tank-car, transport-truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank wagon.

March 18, 1939, split dealer discount was canceled.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline: Cons'r. tank car	Gasoline: Dlr. tank wag.	Kero. Inc. tax	Kero. tank wag.
Albany	12.6	14.6	5.0	7.80
*Met. N. Y.: Manhat., Bronx Queens, Br'klyn Staten Island	12.7	13.7	5.0	8.00
Buffalo	13.1	14.5	5.0	7.70
Rochester	13.3	14.0	5.0	8.30
Syracuse	13.2	14.5	5.0	8.30
Boston	11.5	13.0	4.0	8.00
Portland, Me.	12.6	14.3	5.0	8.00
Manchester, N. H.	13.3	15.0	5.0	8.40
Burlington, Vt.	13.1	15.2	5.0	8.20
Spring'fld, Mass.	12.2	13.0	4.0	8.20
Worcester	12.1	13.5	4.0	8.20
Hartford, Conn.	11.9	13.3	4.0	7.90
New Haven	11.8	12.8	4.0	8.00
Providence, R. I.	11.5	13.3	4.0	8.00

*Does not include 2 per cent city sales tax, which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Effective February 15, 1939, the company changed its commercial consumer policy in New York and New England points for tank-wagon delivery to the following: Annual purchases 10,000 gal. and under, tank-car price plus 2 cents per gallon; annual purchases 10,000 gal. up to 50,000 gal., tank-car price plus 1.5 cents per gallon; annual purchases 50,000 to 200,000 gal., tank-car price plus 1 cent per gallon; annual purchases 200,000 gal. and over, tank-car price plus ½ cent per gallon. Private consumers pay undivided dealer price, plus 2 cents per gallon. Private consumers receiving full compartment deliveries of at least 200 gal. receive a discount of ½ cent per gallon.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline: Tank wag.	Gasoline: Dlr.	Incl. tax	Kero. tank wag.
Denver, Colo.	15.5	...	5.0	11.5
Grand Junction	18.5	...	5.0	15.0
Pueblo	16.0	...	5.0	9.0
Casper, Wyo.	17.5	...	5.0	11.5
Cheyenne	15.5	...	5.0	13.0
Billings, Mont.	18.5	...	6.0	13.0
Butte	20.0	...	6.0	15.5
Great Falls	19.5	...	6.0	15.5
Helena	20.5	...	6.0	15.5
Salt Lake, Utah	13.5	13.5	5.0	16.0
Boise, Idaho	21.1	21.1	6.0	18.0
Twin Falls	21.1	21.1	6.0	18.0
Albu'que, N. M.	17.0	17.0	6.5	10.0
Roswell	16.0	16.0	6.5	8.0
Santa Fe	17.5	17.5	6.5	10.0

*Includes city tax of 0.5 cent. †Includes state tax of 1 mill.

Tank wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline: Cons. tank car	Gasoline: Dlr. tank wag.	Kero. Inc. tax	Kero. tank wag.
New Orleans, La.	15.25	17.75	8.0	†11.0
Baton Rouge	15.25	17.75	8.0	‡10.5
Alexandria	15.25	17.75	8.0	‡12.5
Lafayette	15.00	18.00	8.0	‡11.0
Lake Charles	15.25	17.75	8.0	‡12.5
Shreveport	14.00	16.50	8.0	‡11.0
Knoxville, Tenn.	18.00	20.50	8.0	13.0
Memphis	16.00	18.50	8.0	11.0
Chattanooga	17.50	20.00	8.0	12.0
Nashville	17.50	19.50	8.0	11.0
Bristol	18.25	17.75	8.0	13.0

Essolene at dealer price less 0.5 cent per gallon to undivided dealers.

†Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gal. or more in one territory take posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gal. at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less 0.5 cent per gallon. Kerosene prices include 1-cent state tax.

Effective February 24, 1939, the company reestablished in New Orleans the commercial consumer policy on motor fuel effective in the rest of the state.

Effective December 12, 1939, the company revised its commercial consumer policy on motor fuel in New Orleans, as follows: Single deliveries of less than 50 gal., consumer tank car plus 2 cents per gallon 50 to 199 gal., consumer tank car plus 1 cent per gallon; 200 gal. and over, consumer tank car plus 0.5 cent per gallon.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline: Tank wag.	Gasoline: Dlr. tax	Kero. Inc. tax	Kero. tank wag.
Omaha	16.5	13.5	6.0	9.3
McCook	16.5	14.4	6.0	9.0
Norfolk	17.3	15.8	6.0	9.5
North Platte	17.8	14.9	6.0	10.0
Scottsbluff	18.5	15.5	6.0	11.4

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline: Tank-wg. dlr.	Gasoline: Includes tax	Kero. tank wag.
Texarkana, Ark.	14.0	5.0	8.0
Fort Smith	14.5	5.0	7.5
Little Rock	17.25	7.5	8.0
Muskogee, Okla.	13.0	5.0	7.0
Oklahoma City	11.0	5.0	6.5
Tulsa	12.0	5.0	7.5

The tank-wagon price is the price to all classes of trade.

Texas

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Kero. Inc. tax	Kero. tank wag.
Dallas, Tex.	12.0	16.0	5.0	7.0
Fort Worth	15.0	19.0	5.0	8.0
Houston	14.0	18.0	5.0	8.0
San Antonio	14.0	18.0	5.0	8.0

Canada

3-Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Tank wag.	Inc. tax	Kero. tank wag.
Halifax, N. S.	24.5	10.0	11.5
St. John, N. B.	24.5	10.0	13.5
Montreal, Que.	23.0	8.0	15.5
Toronto, Ont.	23.5	8.0	16.0
Hamilton, Ont.	23.5	8.0	16.0
Winnipeg, Man.	26.5	7.0	20.5
Brandon, Man.	28.0	7.0	22.9
Regina, Sask.	25.5	7.0	20.5
Saskatoon, Sask.	28.0	7.0	23.0
Edmonton, Alta.	25.9	7.0	20.9
Calgary, Alta.	23.0	7.0	18.0
Vancouver, B. C.	23.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	16.2
V.M.&P. naphtha	16.5
Cleaners' naphtha	15.5
Stanisol	15.5

*Prices include 3-cent Illinois tax but not 1-cent federal tax nor 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gal. lots if covered by contract.

Tank-Wagon Changes

Standard Oil Co. of Nebraska November 29 reduced dealer gasoline 1 cent in North Platte.

Standard Oil Co. (Kentucky) November 28 advanced consumer tank-wagon and net dealer gasoline 0.5 cent in Tampa; November 29, reduced tank-wagon kerosene 1 cent in Mobile.

Standard Oil Co. (Indiana) December 2 reduced tank-wagon and dealer gasoline 0.1 cent in Grand Rapids.

East Central Alberta

In the Vermilion field, eastern Alberta, Franco-Vermilion's No. 1, Section 14-49-5w4, is drilling and coring below 1,620 ft. after encountering a good gas flow in the Cretaceous formation at 1,610 ft. The flow started at about 6,000,000 cu. ft. a day but blew down considerably and is now estimated somewhat less than 5,000,000 cu. ft. There are some traces of oil, and considerable pressure.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of December 12, 1939

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 octane and below	.04½	.04¼
63-66 octane	.04⅝	.04½
67-69 octane	.04½	.04⅝
70-72 octane (regular)	.04⅞	.05
60-62 400 grades:		
62 octane and below	.04⅛	.04¼
63-66 octane	.04⅝	.04½
67-69 octane	.04½	.04⅝
70-72 octane (regular)	.04⅞	.05
68-70 360	.04⅞	.05⅛

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04½	.04¼
63-66 octane	.04⅝	.04½
67-69 octane	.04½	.04⅝
70-72 octane (regular)	.04⅞	.05⅛
60-62 400	.04⅛	.04¼

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
62 octane and below	.04½	.05
63-66 octane	.04⅝	.05⅛
67-69 octane	no quotations	
70-72 octane (regular)	.05¼	.05½

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
62 octane and below		.04⅝
67-69 octane	no quotations	
70-72 octane (regular)		.05¼

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04¼	.04⅜
63-66 octane	.04½	.04⅝
67-69 octane	.04⅝	.04⅞
70-72 octane (regular)	.05	.05⅛
60-62 400 grades:		
62 octane and below	.04¼	.04⅜
63-66 octane	.04½	.04⅝
67-69 octane	.04⅝	.04⅞
70-72 octane (regular)	.05	.05⅛
68-70 360	.05	.05¼

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor	.04⅝	.04⅞
65 octane	.06⅝	.06⅝
72-74 octane (regular)	.06	.06½

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.06	.08
58-60 400, 65 oct. and higher	.07	.09

EAST COAST (domestic)—

U. S. Motor, 65 and above:		
*New York (Bayonne)	.06½	.06⅝
Philadelphia	.06¼	.06⅜
Baltimore	.06¼	.06⅜
Charleston, S. C.	.06⅜	.07

*All grades of gasoline ⅛ to ¼ cent less for barge shipments. New York Harbor prices are for New York and New England delivery. Prices for New Jersey delivery ⅛ cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05½	.05⅝
65-67 octane	.05⅝	.06
68-70 octane	.06	.06¼

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70	.03¼	.03½
Grade 18-55	.03¾	.03⅞

NORTH TEXAS—

Grade 26-70	.03	.03¼
Grade 18-55	.03½	.03⅝

CALIFORNIA—

75-85 375-390	.05¾	.06

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70		.03⅜

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110-flash, 540-550 e.p.	.03½	.03⅝
41-43 gr., 300-320 l.b.p., 110-125 flash, 500-520 e.p.	.03⅝	.03¾
46-48 gr., 210-230 l.b.p., 480-max., e.p.	.03⅞	.04⅛

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03⅝	.03⅞
42-44	.03⅝	.04

NORTH TEXAS—

41-43	.03⅝	.03¾

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.03½	.03⅝

ARKANSAS (Ark. and N. La. del.)—

41-43		.03⅝

PENNSYLVANIA (inland refineries)—

45	.04¾	.05
46	.04⅝	.05
47	.04¾	.05¼

CHICAGO (Based on Group 3)—

41-43	.03⅝	.03¾
42-44	.03¾	.04

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04½	.05¾

NEW YORK (Bayonne, N. J.)—

41-43		.052

GULF COAST (domestic)—

41-43	.04½	.04¾

*Barge price ⅛ cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03½	.03⅝
No. 1 prime white, 38-42	.03½	.03⅝
No. 1 straw, 38-40	.03⅝	.03½
No. 2 straw, 32-36	.03¼	.03⅜
No. 2 dark, 32-36	.03⅛	.03¼
No. 3 zero to 15, 28-32	.03	.03⅛
No. 3, 15 and above, 28-32	.02¾	.03

NORTH TEXAS—

No. 1 prime white, 38-42	.03½	.03⅝
No. 1 straw, 38-40	.03⅜	.03½

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.03	.03⅛

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36		.03⅜

CHICAGO (Based on Group 3)—

Range oil	.03½	.03⅝
No. 1 prime white, 38-40	.03½	.03⅝
No. 1 straw, 38-40	.03⅜	.03½
No. 2 straw, 32-36	.03¼	.03⅜
No. 2 dark, 32-36	.03⅛	.03¼
No. 3, zero to 15, 28-32	.03⅛	.03⅛
No. 3, 15 and above, 28-32	.02¾	.03

NEW YORK (Bayonne, N. J.)—

*No. 1	.05	.05⅛
*No. 2	.04½	.04⅝
*No. 4	.04¾	.04½

*Barge deliveries ⅛ to ⅜ cent under above tank-car price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5, low pour point, 18-22	.70	.75
Below 14 fuel oil, industrial	.47½	.52½

NORTH TEXAS—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5, low pour point, 18-22	.70	.75
Below 14 fuel oil, industrial	.47½	.52½

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.70	.75

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅝	.02⅞
No. 5, low pour point, 18-22	.70	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pour point, 10-16	.60	.70
No. 6, 15 and above, 10-16	.45	.50

PENNSYLVANIA (inland refineries)—

36-40	.04½	.04½

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.20	1.30
24 plus diesel, per bbl.	1.15	1.30
24 plus diesel (bunkers)	1.25	1.40
12-16 (bunkers at tidewater)	.70	.90
10-16 (cargo lots)	.75	.90
12-17 (tank cars)	.60	.80
10-17 (high sulfur)	.55	.70
San Joaquin Valley:		
10-18 (tank cars)	.55	.75
24 plus diesel, per bbl.	1.15	1.25
San Francisco:		
24 plus diesel, per bbl.	1.40	1.45
24 plus diesel (bunkers)	1.50	1.55
10-16 (bunkers)	.85	.95

GULF COAST—

No. 2 fuel		.04¼
43-47 diesel		.04
48-52 diesel		.04¼
53-57 diesel		.04½
58 and above diesel		.04¾
Bunker C (bulk cargoes)	.95	1.00
Bunker C (bunkers)	.95	1.00

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04¼
28-30 diesel (lighterage 6¼c per bbl.)		1.75
28-30 diesel (tank cars)		.04¼
Bunker C (to ocean-going ships in N. Y. Harbor)		1.15
Industrial fuel (tank cars)		.04

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

190-200 D, 15-25		.27
150-160 D, 0-10		.24
150-160 D, 15-25		.23
150-160 E, 15-25		.23
100-110 D, 0-10		.23
Steam refined:		
600 dark green (untreated)		.08

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pour point	.28	.33
15 pour point	.27	.32
25 pour point	.25	.30
Steam refined:		
600	.15⅛	.18
650	.17	.20
600 flash	.17½	.21
630 flash	.21	.24

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

0-10 pour point:		
150-3		.13
180-3		.14
180-4		.13½
200-3		.14½
200-4		.14
250-3		.16
250-4		.15½
280-3		.17
280-4		.16½
300-3½		.17½
400-3½		.18½
100-2½ paraffin oil		.07½
15-25 pour point:		
200-3		.14
200-4		.13⅜
250-3		.15
250-4		.14½
280-3		.16½
280-4		.16

GULF COAST—

Pale oils:		
200-3	.07¼	.07½
300-3	.07⅝	.08
500-3½	.08½	.09
750-3½	.09	.09½
1,200-3½	.09¾	.10
2,000-4		.10¼
Red oils:		
200-5-6	.07	.07⅛
300-5-6	.07½	.07⅝
500-5-6	.08¼	.08⅝
750	.08⅝	.09¼
1,200-5-6	.09⅝	.09⅝

CALIFORNIA (moving to dom. market)—

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11⅛
400-5-6	.09¼	.11⅛
450-5-6	.09¼	.11⅛
500-5-6	.09¼	.11⅛
600-5-6½	.09¼	.11⅛
700-6½ plus	.09¼	.11⅛
750-6½ plus	.09¼	.11⅛
900-6½ plus	.09¼	.11⅛

PENNSYLVANIA—

150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pour point	.31	.32
10 pour point	.30	.31
15 pour point	.29	.30
25 pour point	.25	.28
200 vis. at 70° F., 3 color:		
Zero pour point	.33	.34
10 pour point	.32	.33
15 pour point	.31	.32
25 pour point	.27	.32

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (A.m.p.) w.c. scale		.0675

PENNSYLVANIA (inland refineries)—

122-124 (A.m.p.) w.c. scale	.0650	.0675
124-126 (A.m.p.) w.c. scale	.0650	.0675

NEW YORK—

Wax in bags fully refined:		
123-125 (A.m.p.) wax		.0505
125-127 (A.m.p.) wax		.0520
128-130 (A.m.p.) wax		.0560
130-132 (A.m.p.) wax		.0585
133-135 (A.m.p.) wax		.0615
135-137 (A.m.p.) wax		.0640
Crude scale:		
124-126 (A.m.p.) w.s.		.0600
124-126 (A.m.p.) y.s.		.0575
Petrolatum in barrels, carload lots:		
Dark green		.03½
Amber		.03⅝
Extra amber		.04
Lily white		.06½
Snow white		.07⅛
Cream		.05⅛

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.05	.05¼
60-62 400	.05½	.06
65 octane	.06¼	.06⅛
68 octane	.06¾	.07
70 octane	.07	.07⅛

LOS ANGELES—

U. S. Motor grades:		
60-65 octane	.05½	.05⅝
65-69 octane	.05⅝	.06¼
Above 69 octane	.06¼	.06½

KEROSENE

GULF COAST—

41-43 prime white		.05⅛
41-43 water white		.05¼

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.s.) in bbls.—

Cylinder stocks:		
600 S.R. unfiltered	.25	.26½
650 S.R. unfiltered	.27	.28½
600 flash, S.R.	.28	.30½
630 flash, S.R.	.30	.34
Bright stock:		
8 color	.40	.42

NEUTRAL OIL

200-3 color	.38	.43
150-3 color	.37	.40

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 A.m.p.		.0505
125-127 A.m.p.		.0650
128-130 A.m.p.		.0675
133-135 A.m.p.		.0750
135-137 A.m.p.		.0850
Crude scale:		
122-124 w.s.		.0600
124-126 w.s.		.0600
122-124 y.s.		.0575
124-126 y.s.		.0575

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1939 High	1939 Low	Week ended Dec. 9 High	Week ended Dec. 9 Low	Week ended Dec. 9 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1938	Com. sh. earn. 1937	1938 High	1938 Low	1937 High	1937 Low
74½	50	59¾	58⅛	58⅛	Amerada Corp.	788,675	N.P.	50cQ	10-31-39	$2.00	$2.07	$3.04	78	55	111⅞	51½
24⅞	18⅛	21⅜	20⅞	21⅛	Atlantic Refining	2,663,999	$25	25cQ	12-15-39	1.00	1.40	3.51	27⅜	17⅜	37	18
21½	10¼	16	15	15¼	Barber Asphalt Co.	390,223	$10	25c	11-17-39	...	—.85	1.91	23¾	12⅛	43⅜	10⅛
19½	11⅜	12⅝	12⅛	12⅛	Barnsdall Oil Co.	2,250,344	$5	15c	12-9-39	1.00	1.26	.85	21⅜	10⅛	35¼	10
9⅞	6½	7¼	7	7⅛	Consolidated Oil Corp.	13,751,846	N.P.	20cQ	11-15-39	.80	.55	1.48	10⅜	7	17⅜	7
31½	19⅞	23⅝	22½	22⅝	Continental Oil of Delaware	4,682,581	$5	25cQ	12-26-39	‖1.00	1.10	2.98	35⅜	21¼	49	24
9⅜	4½	6	5⅝	5⅜	Houston Oil (new)	1,098,618	$25	...	10-17-30		.83	.94	9⅜	5	17⅝	4¾
20¼	10	13¾	12⅝	13¾	Lion Oil Refining	435,815	N.P.	25cQ	10-10-39	1.00	2.09	2.17	25½	15⅝	34	12½
18	11⅛	14¼	14	14	Mid-Continent Petroleum	1,857,912	$10	35c	12-1-39	.60	.56	2.86	22⅝	12¼	35⅜	14
14⅞	8⅜	9½	9	9½	Mission Corporation	1,379,245	$10	40c	12-15-39	1.00	1.04	1.31	17⅜	10⅝	34	15
15½	5⅝	9⅞	8⅝	9⅝	National Supply	1,155,517	$10	....	12-22-37	....	—.79	4.90	23	12½	41⅜	17⅝
10½	6	6⅞	6½	6⅝	Ohio Oil Co.	6,563,377	N.P.	20c	12-15-38	.20	.25	1.30	14⅞	8⅞	22⅞	8
11⅞	7⅜	8	7⅝	8	Pacific Western Oil	1,000,000	N.P.	40c	12-19-39	.50	1.22	1.39	15⅞	10¼	29⅜	11¾
8¾	5	7¼	7¼	7¼	Pan American Pet. & Trans.	4,702,945	$5	....	12-21-37		.08	1.18	9¼	6¼	17⅛	7
46½	31¼	40¾	39¾	40⅝	Phillips Petroleum	4,449,052	N.P.	50cQ	12-1-39	‖2.00	2.03	5.42	44⅜	27¼	64	30½
24	17⅛	20¾	20¼	20¾	Plymouth Oil Co.	1,006,200	$5	35cQ‡	12-31-39	1.40	2.59	2.85	25⅝	15	29⅞	13
11¾	6⅛	8⅜	8⅛	8⅝	Pure Oil Co.	3,982,031	N.P.	25c	12-20-39	....	.38	2.15	13½	8¼	24⅜	8⅜
10¼	6⅝	9⅛	8¼	8⅜	Richfield Oil Corp.	4,010,000	N.P.	50c	12-21-38	.50	.51	.35	9⅞	5	6½	4½
24⅜	15½	19	18½	18⅝	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	12-15-39	1.00	1.52	1.97	27½	15½	54⅛	16
17¼	9⅞	13	12	12⅛	Shell Union Oil	13,070,625	N.P.	25c	12-20-39	.70	.72	1.44	18⅜	10	34⅜	14⅞
29½	15½	19⅝	19	19⅛	Skelly Oil	995,349	$15	25c	12-22-39	1.00	2.27	6.07	34¾	18½	60⅝	26½
15⅛	10¼	12⅜	11¾	11¾	Socony-Vacuum	31,206,071	$15	25cSA	9-15-39	.50	1.29	1.82	16⅜	10¾	23¼	13
33⅝	24¼	25⅝	24⅞	25⅛	Standard Oil of California	13,004,153	N.P.	25cQ	12-15-39	1.40	2.22	3.17	34⅞	25⅛	50	27⅛
30	22⅜	26⅛	25⅝	26⅛	Standard Oil (Indiana)	15,272,020	$25	50c†	12-15-39	1.00	1.82	3.66	35½	24⅜	50	26⅛
53½	38	45⅝	44¼	44⅜	Standard Oil of New Jersey	26,618,065	$25	75c¶	12-15-39	$1.50	2.86	5.64	58⅜	39¾	76	42
66	45¾	58½	58	58	Sun Oil	2,316,484	N.P.	25cQ	12-15-39	1.00	1.07	3.86	65⅛	45	77½	44½
3⅝	1¾	2¼	2⅛	2¼	Superior Oil Corp.	1,388,979	$1	10c	12-28-38	.10	.24	.32	4¼	1¾	7¾	1½
50¾	32½	45⅜	44⅛	44⅜	Texas Corp.	10,876,882	$25	50cQ	1-2-40	2.00	2.13	5.02	49⅝	32⅝	65⅛	34¾
5⅞	3¼	4	3⅞	4	Texas Gulf Producing Co.	888,144	N.P.	10c	12-15-39	.15	.86	.68	5⅞	2⅝	9⅝	2
11⅜	7	9	8½	8⅝	Texas Pacific Coal & Oil	888,236	$10	10c	12-1-39	.40	1.16	1.11	12½	7	16⅝	5⅜
14¼	9½	10½	10⅛	10¼	Tide Water Associated	6,375,253	$10	15c	12-1-39	1.00	1.28	2.08	15¾	10⅛	21⅝	13⅛
19¾	15⅛	16¾	16¼	16¼	Union Oil of California	4,666,270	$25	25c	11-10-39	1.20	1.47	2.58	22½	17⅛	28⅛	17½
24¼	20⅛	23	22¾	22⅞	Union Tank Car Co.	1,177,381	N.P.	40c†	12-1-39	1.30	1.16	1.70	23½	20	31½	22
4¼	2⅜	3⅜	3¼	3¼	Wilcox Oil & Gas	487,568	$5	....	5-10-28		.52	.24	3½	1⅝	6¾	1¾

†Includes extras. ‡Also 2 per cent in stock. §Also 1½ per cent stock dividend. ‖Also right to subscribe to bonds. ¶Also 1½ per cent in stock. —Deficit.

New York Curb Exchange

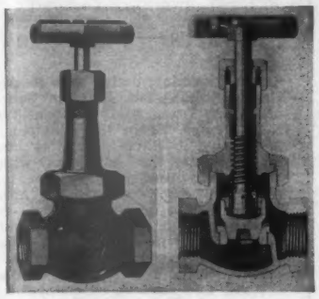
1939 High	1939 Low	Week ended Dec. 9 High	Week ended Dec. 9 Low	Week ended Dec. 9 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1938	Com. sh. earn. 1937	1938 High	1938 Low	1937 High	1937 Low
11¾	5½	6⅝	6⅛	6¼	American Republics Corp.	1,308,049	$10	10c	7-11-38	$0.10	—$0.22	$0.27	11¾	5	10	6⅝
7¼	2½	2⅞	2½	2⅝	Bridgeport Machine Co.	270,000	N.P.	$1.25	12-30-37		—.14	1.90	10¼	4⅞	21⅜	7
34¾	26½	29	28	29	Buckeye Pipe Line Co.	200,000	$50	$1	12-15-39	2.00	2.36	4.02	39	22½	51½	36
130	110	117½	116	116	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	12-18-39	6.50	5.32	6.73	128	97	112	95½
9¼	4¼	5	4½	4¾	Cities Service (new)	3,704,067	$10	....	6-1-32	....	.23	1.02	11	5⅛	5⅜	1½
2¼	½	1⅝	1½	1½	Cosden Petroleum	462,551	$1	....	....	....	....	.19	2⅜	⅞	5½	1½
28	16¾	23	22⅜	22½	Creole Petroleum	6,975,383	$5	50cSA†	12-15-39	1.00	1.64	1.61	27½	17½	38¾	20¼
7⅛	3⅝	4¼	4	4¼	Darby Petroleum	351,390	$5	25cSA	1-15-39	.50	....	1.36	10¼	5⅛	18⅝	6½
2⅝	1½	1⅞	1⅞	1⅞	Derby Oil & Refining	263,162	N.P.	....	.....	....	—.91	1.34	3½	1½	8⅝	2¼
22¼	15⅛	22½	22¼	22¼	Eureka Pipe Line	50,000	$50	50c	11-1-39	3.00	—.37	—.12	31	16	47½	24½
45⅛	29¼	39⅝	38	38⅛	Gulf Oil Corp.	9,076,202	$25	25cQ	12-15-39	1.00	1.43	3.51	46⅞	33	63½	33
71	52½	64¾	62½	62½	Humble Oil & Refining	8,987,840	N.P.	62½c	12-16-39	3.00	3.98	5.22	72⅝	56	87	54⅞
17	11⅜	12⅛	11⅞	12⅛	Imperial Oil of Canada	26,965,078	N.P.	37½c†	12-1-39	1.25	.96	.98	19½	14⅛	24¼	14½
7	5½	5⅞	5⅝	5⅜	Indiana Pipe Line	300,000	$10	20c	11-15-39	.50	.47	1.03	9⅜	6	15	5⅞
27½	17½	18¾	18	18¾	International Petroleum	14,324,088	N.P.	75c	12-1-39	2.50	1.98	....	31¼	21	39½	23½
3¾	2⅛	2¼	2⅛	2⅛	Kirby Petroleum Co.	500,000	$1	10c	4-15-38	.10	.14	.17	5	2⅛	8¾	2⅝
10½	7⅛	10⅛	8⅞	10	Lone Star Gas	5,553,747	N.P.	30c	12-22-39	.60	.88	1.14	10⅝	6⅝	14¼	5¼
7¾	4	5⅝	4⅞	4⅞	Louisiana Land & Exp.	2,977,449	$1	5c	12-15-39	.45	.45	.58	9⅜	6½	15¼	6¾
17	14½	..	..	..	Margay Oil Corp.	149,943	N.P.	25cQ	1-10-40	1.00	2.28	3.26	24	16	33½	17
8¾	6⅝	7⅜	7⅛	7⅛	Midwest Oil Co.	998,474	$10	45c	12-15-39	1.00	.93	1.14	9¾	6⅝	14⅝	6¼
6	4⅞	5⅜	5	5⅜	Mountain Producers	1,593,584	$10	30cSA	12-15-39	.60	.62	.76	5¾	4½	7⅞	4⅛
14	11¼	12¾	12¼	12⅜	National Fuel Gas	3,810,183	N.P.	25cQ	10-16-39	1.00	.84	.96	14⅝	11½	19½	12
9¼	7¼	8½	8	8⅛	National Transit	509,000	$12.50	50c	12-15-39	.75	.88	1.19	9¼	6⅜	12½	7¼
1¾	1⅛	1¼	1⅛	1⅛	New Mexico and Arizona	1,000,000	$1	1c	12-1-37	....	.02	.02	2⅝	1½	5	1⅛
5	4	..	..	..	New York Transit	100,000	$5	25c	10-14-39	.25	.16	.49	4½	3½	5⅝	3⅞
6	4½	5½	5½	5½	Northern Pipe Line	120,000	$10	15c	12-1-39	.35	.24	.78	6	4	12¾	5¾
7⅝	4	5	4⅞	4⅞	Pantepec Oil	2,857,000	$1	....	.....	....	....	....	7¾	3½	9⅝	2⅜
5	1¼	3⅜	3¼	3¼	Root Petroleum Co.	336,045	$1	25c	2-1-37	....	.17	—.17	4½	1⅝	12¾	2
3	1⅞	2½	2¼	2¼	Ryan Consolidated	298,931	N.P.	...	.....	....	.29	.46	4	2⅛	6½	2¼
4⅞	3½	4½	4½	4½	Southern Pipe Line	100,000	$10	15cSA	9-1-39	.30	—.27	.85	5⅜	3¼	7¼	3⅞
40½	26¾	37¼	36¾	37	South Penn Oil	1,000,000	$25	$1.87½Q†	12-15-39	1.75	1.44	4.64	39	28¾	56	35
23	17	22	21¾	22	Southwest Penna. Pipe Lines	35,000	$50	50cQ	10-2-39	2.00	—.41	.95	22¼	16½	42	20
19½	17¼	18¾	18⅜	18¾	Standard Oil of Kentucky	2,604,790	$10	55c†	12-15-39	1.25	1.45	1.60	18¾	15	21⅛	14¾
27¾	17	27¼	25¾	27¼	Standard Oil of Ohio	753,740	$25	75c†	12-15-39	1.00	1.81	3.67	22¾	16¼	45	16
2¾	1¾	2	1⅞	2	Sunray Oil	2,007,076	$1	5c	12-20-39	.05	.23	.42	3¼	2	4⅞	2
4	2⅝	2⅝	2⅝	2⅝	Texon Oil & Land	936,024	$2	10c	6-30-39	.60	.56	.51	5¼	3½	7⅝	2
6	2½	2⅞	2¾	2⅞	Transwestern Oil Co.	750,000	$10	....	.....	....	—.12	.48	7⅝	4¼	13⅞	4⅝
3⅝	1⅝	2	1¾	1¾	United Gas Corp.	7,818,959	$1	....	.....	....	—.51	.25	5¼	2⅝	13⅞	3

†Includes extras. ‡Payable in Canadian funds. —Deficit.

New or Improved Equipment

Valves Designed for Throttling Use and General Heavy Duty

Kennedy Valve Manufacturing Co., Elmira, N. Y., announces a new line of bronze globe and angle valves with plug-type disks and renewable seat rings for close control in throttling service and for general heavy duty. These valves are made in sizes from ¼ in. to 2 in. for 200-lb. steam at 550° F. and 400-lb. cold water, oil, or gas, nonshock; and in sizes from ¼ in. to 3 in. for 300-lb. steam at 550° F. and 600-lb. cold water, oil, or gas, nonshock.

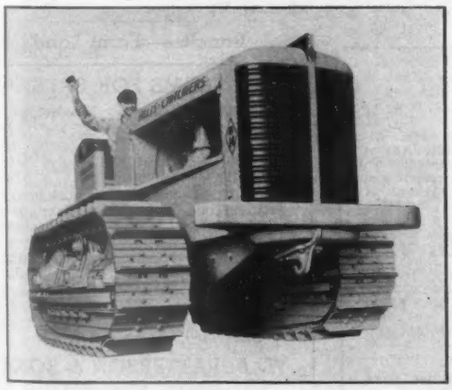


The plug-type disk and renewable seat ring are both of copper-nickel alloy, the seat rings being made of a harder composition than the disk. The angularity and length of the disk and seat ring have been proportioned to minimize wear at small openings and to permit tight closure even if the faces are partly damaged in service; and each seat ring is matched to its companion disk to assure full bearing surface over the entire contact area of each.

The stems have tensile strength of 60,000 lb. per sq. in., with acme standard threads, and have rounded stem head to permit self-centering of the disk. The bonnets are provided with particularly heavy union bonnet rings, and have machined seat on the under surface to permit repacking under full-line pressure when the valve is wide open.

Throttle Control of Tractors in New Allis-Chalmers Models

A new line of high-speed diesel-crawler tractors, powered by General Motors diesel engines, has been announced by Allis-Chalmers Manufacturing Co., Milwaukee, Wis. The first model, the HD14, is now available and others will be released in the near future.



The HD14 develops 130 hp. on the belt, 106 hp. on the drawbar, and weighs 27,000 lb. The transmission with six forward speeds and two reverse provides forward speeds from 1.72 to 7 miles per hour and reverse speeds of 2 and 3.20 miles per hour.

The General Motors two-cycle six-cylinder engine is said to provide unusual smoothness and performance. Allis-Chalmers, in testing this engine, has moved over 2,000,000 cu. yd. of earth on two of the toughest construction jobs in the country—the Rio Grande flood-control system and the Pennsylvania Turnpike—in addition to extensive tests on logging jobs. This engine also makes possible throttle control of a tractor, giving a range of speeds in any gear down to half-rated engine speed, without loss of drawbar pull.

Other features include the new "positive-seal" truck wheels, recently introduced by Allis-Chalmers, which eliminate the regular 10-hour greasing and require lubrication only once every 200 hours. New and revolutionary steeling clutches and brakes of a bimetallic material are said to make a marked reduction in maintenance expense by increasing the life of these parts.

The HD14 is designed to handle the larger scrapers, graders, bulldozers, trailbuilders, rippers, winches, logging arches, wagons, snow plows, and other auxiliary equipment.

First Anniversary Celebrated by Nomads in Los Angeles

The first anniversary of the Nomads was celebrated December 6 by the Los Angeles chapter. The dinner, attended by over 100 members and guests, was followed by talks by visitors from foreign fields and by an interesting lecture covering the adventures of a lone survivor of an expedition into the jungles of Central South America. Foreign visitors included George Wilzleben, of U.B.O.C., Trinidad; D. D. Lewis, Standard of Venezuela, Caripito, Venezuela; T. Whitlake, D. Fleming, and Mr. Gunst, of the Shell interests from The Hague; Eric Eager and Archie Brown, of Caribbean Petroleum Co. from Venezuela; Dr. von Heinigan of B.P.M., from The Hague; Charles Lilly, Standard of Arabia; Earl Grainger, of the Shell interests in Maracaibo; C. C. Sutton, Caribbean Petroleum Co., Maracaibo; Ernie Smith, California Arabian Standard Oil Co., and Thomas Thomas, Imperial Oil Co.

Bart Gillespie who has just returned from Argentina where he was with the Y.P.F., told of operations in the Argentine. Walter Elliott, of the Shell company in Los Angeles, told of his recent trips to the Venezuelean fields and his visit in Europe where he was at the time war broke out. The main speaker, Dr. Gustav F. Struve, introduced by R. O. Atkinson, a member of the Adventurers Club, described an Argentine botanical expedition.

Sperry-Sun Patents Infringed

A decision of Judge Leon R. Yankwich in the District Court of the United States for the Southern District of California holds that certain patents covering the Sperry-Sun Well Surveying Co.'s Surwel multiple-shot surveying instrument have been infringed upon by Kepler Lutschg. The finding of the court enjoints the defendant from use of the instrument. Mr. Lutschg's defense was that he had not used the instrument in the form in which he had bought it. Judge Yankwich pointed out that the instrument constructed under Sperry-Sun's patents had been "reduced to very successful practice" and said the claims were "entitled to a broad interpretation."

New Home for U. S. Rubber

United States Rubber Co. has sold its 20-story building, Broadway at Fifty-eighth Street, New York, which it has occupied 27 years, and has leased the new 20-story Rockefeller Center Building at Sixth Avenue and Forty-eighth Street. The new building will bear the company's name and will be occupied by the company in March.

The 11 upper floors will be occupied by the principal executive and management offices of the company. The offices will require about 60 per cent of the total floor space of the building.

Trade Literature

WORTHINGTON PUMP & MACHINERY CORP., Harrison, N. J.—Bulletin H-450-B29, new line of turbine well pumps; Bulletin H-450-B30, vacuum molded impellers used in these pumps.

Spatter 50 to 75 Per Cent Less Where Spatter-Nox Is Used

Spatter-Nox, a material developed by Mahoning Paint & Oil Co. to shorten the time required for cleaning welds, is said to reduce spatter 50 to 75 per cent, and if coated electrodes are used, to cut slag-cleaning time by one-half. It does not interfere with penetration, tensile strength, or ductility. The reproduction of a welded section shown here is from an unretouched photograph and indicates actual size. Advantages enumerated by the manufacturer include: Increases welding speed 30 to 50 per cent by permitting a more stable arc (no wild arc); saves 40 to 50 per cent labor costs by reducing cleaning time of spatter; can be used with any amount of amperage or voltage; rust-inhibitor properties prevent after-rusting adjacent to weld; provides an excellent foundation for painting; ease of application, can be either brushed or sprayed.

Universal Power Co., 4300 Euclid Avenue, Cleveland, Ohio, is the sole distributor for Spatter-Nox in the United States and Canada.

Loeffler Joins Thornhill-Craver

Thornhill-Craver Co., Houston, Tex., manufacturer of Unibolt products, has appointed J. E. Loeffler to the sales engineering department. He will devote his time to refinery equipment employing the Unibolt design.

Mr. Loeffler was graduated from Gonzaga University in 1913 as a mining and mechanical engineer, and entered the services of the Freeport-Mexican Oil Corp. as field engineer. This company was absorbed by the Sinclair interests in whose employ he remained for many years in charge of the mechanical engineering department. In 1923, he was employed as construction engineer for the Humphreys-Pure Oil pipe-line project, which is now also a Sinclair property. This addition to the sales engineering staff provides Thornhill-Craver with a trained refinery technician.

Goodrich Changes Announced

Guy Gundaker, Jr., with B. F. Goodrich Co. since 1924, has been appointed special representative to R. McTammany, assistant sales manager of the tire division. He is succeeded by E. R. Bell, formerly manager of the accessories sales department. J. T. Staker has been made manager of the company's fleet sales division. H. G. Couturier, a member of the Goodrich district staff in Milwaukee, Wis., has been appointed western manager of the fleet sales division. The activities of J. R. Rutherford, eastern manager of the fleet sales division with headquarters in New York, have been expanded to aid and supervise fleet sales in Boston, Albany, New York, Philadelphia, Washington, Charlotte and Atlanta districts. Mr. Rutherford was Milwaukee district manager before going to New York. Assisting Mr. Rutherford will be R. E. Montgomery.

CLASSIFIED ADVERTISING

Patent Attorneys

PATENTS — TRADE MARKS

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LANCASTER, ALLWINE & ROMMEL
Patent Law Offices
418 Bowen Bldg., Washington, D. C.

JACK A. SCHLEY
PATENT ATTORNEY

Patents obtained — infringement practice in all Courts—oil field experience. 1807-11 Tower Petroleum Bldg., Dallas; 2014 Second Nat'l. Bank Bldg., Houston. 506 Aztec Building, San Antonio, Tex. 457 Munsey Building, Washington, D. C. Address any of these offices.

Leases and Drilling Blocks

LEASES—East Texas, La., South Ark. 20 acres up, dollar acre up.—Owners—Address Attorney, Box 1122, Little Rock, Ark.

BROKERS and SALESMEN
only
A complete SERVICE EXPERTS in every department of the Oil Business at your SERVICE a REAL SET-UP. The best opportunity ever offered you. Leases in large or small lots at
WHOLESALE PRICES
Write today and get started right.
OIL BROKERS EXCHANGE
200 Don Juan Bldg., Santa Fe, N. M.

SACRIFICE 40-acre Oil Lease, Chaves County, for only $10.00, full price. Guarantee title. P. O. Box 191, Clovis, N. Mex.

NEW MEXICO WEEKLY OIL SCOUT REPORT. — Send for sample copy. Roy G. Barton, Box 968, Hobbs, N. M.

FOR SALE Oil and gas leases and small production located in Kentucky shallow field, and leases located in Clay County, Tenn. Have for sale two tracts of proven Fluorspar and Zinc deposits; reports furnished on request. W. P. Harley, Bowling Green, Kentucky.

FOR Lease 400 acres in Mound Township, Effingham County in Sec. Four and Five. Four miles from St. Elmo and Bucher City Oil fields. E. R. Stroud, Altamount, Illinois.

LIMA Ohio Oil fields should have deep well play, for productive oil basin. Correspondence solicited. JULES BARND, Faurot Building, Lima, Ohio.

NEW MEXICO
STATE OIL AND GAS LEASES
Buy on known structures where major companies own leases. 50c per acre. 5c rentals. Write for information.
HARRY S. WRIGHT, STATE LESSEE
Wright Building
FARMINGTON, NEW MEXICO

WANT CAPITAL to invest in perpetual mineral rights in North Permian Basin in Texas and New Mexico in major company blocks on geophysical highs. Rapid development under way now. Now is the time to invest as mineral rights will be much higher after development starts on each block. Real opportunity. Address Box K-391, The Oil and Gas Journal, Tulsa, Okla.

PRIVATE CAPITAL available up to $75,000 for oil and mining ventures. Principals only. Address Box K-390, The Oil and Gas Journal, Tulsa, Okla.

NEBRASKA THE NEW OIL STATE
Represent owner of block of leases near west rim Forest City Basin. Offering good acreage deal for a well. J. M. Livingston, 317 North 11th St., Nebraska City, Nebr.

FOR SALE—Oil and Gas leases, 2 good producing gas wells, 500 feet, 10 miles west of Kansas City. A. T. Burgdorfer, Shawnee, Kansas.

Leases and Drilling Blocks

WANTED offset or proven acreage for immediate development. Full details first letter necessary. Address Box K-371, The Oil and Gas Journal, Tulsa, Oklahoma.

LOUISIANA Leases. 320 to 15,000 acres. Concordia-Catahoula-La Salle Parishes. C. W. Deming, Reg. Dealer, Waycross, Ga.

NEW Oil field starting, first well estimated 70 bbls. 574 ft., have 256 acres will lease to party that will drill. R. T. Gaddie, Bengal, Kentucky.

160 ACRES, two locations from production. All papers and abstracts in order. Ready to drill. In Rice County, Kansas. Will make very reasonable deal. P. A. Hollenback, 1910 Dallas Street, Apartment 18, Houston, Texas.

EAST Texas Oil and Gas leases. Several small tracts—total 45 acres. C. W. NEBEL, 813 N. 6th St., Longview, Texas.

FOR SALE or lease: 2000 acres in Southern Illinois. Address P. N. ALBERTSEN, Perkin, Illinois. for details

FOR SALE—60-acre lease, N SE 20-7-4, Pottawatomie County. 15 bbl. Earlsboro well. Drilling derrick, complete pumping equipment, also $4,000 oil assignment. 1/8 of 7/8's O.R. New well, SE¼ 20-7-4. Cash only. Address Box K-401, The Oil and Gas Journal, Tulsa, Okla.

EAST TEXAS Trinity sand wildcats will drill shortly Humble, Shell and Texas company blocks afford chance quick money. Leases-Royalties. E. CROFT, PROCTOR, TEXAS.

Financing

CAPITAL SEEKERS
Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building, Detroit, Michigan

Help Wanted

ENGINEER with design experience in petroleum refining work, wanted. Address Box K-393, The Oil and Gas Journal, Tulsa, Okla.

DEALER in each settled production area. Good thing. Eclipse Chemical Co., Box 2603, Tulsa, Okla.

WANTED
SALES REPRESENTATIVES WANTED to sell well-known line of Carbon & Alloy Steel Castings and Cast Steel specialties. Crane wheels, conveyor chain sprockets, elevator buckets and similar parts. In reply advise lines you are now handling, district covered and previous business experience. Address Box K-392, The Oil and Gas Journal, Tulsa, Okla.

Situations Wanted

REFINERY DESIGNING ENGINEER, 17 years' experience. Desires change. At present employed, Chief draftsman major oil company. Address Box K-380, The Oil and Gas Journal, Tulsa, Oklahoma.

MANUFACTURERS REPRESENTATIVE
An experienced and well acquainted salesman desires additional lines to sell, in Mid-Continent Area. Commission or Salary. Box K-291, The Oil and Gas Journal, Tulsa, Oklahoma.

PROD. man. several yrs.' exp. producing and running cleaning out tools would appre. contact with co. or indiv. desiring the service of such a man. Address Box K-400, The Oil and Gas Journal, Tulsa, Oklahoma.

PETROLEUM Engineer, experienced executive all phases industry, wants immediate connection with reliable independent operator. M. E. Nash, 319 W. 23rd, Houston, Texas.

$12,000
EXECUTIVE

Available at $5000, plus profit sharing. Broad experience in management, financing operation and sales of liquid and natural gas. Proven record of accomplishment. Build new or fit into going organization. Can increase earnings and lower operation costs. Diversified engineering background. Accustomed to responsibility. Married. Age 48. Now employed, seeking change. Address: Gas Utility, 911 Merchants Bank Building, Indianapolis, Indiana.

EXECUTIVE, Oil Well Supply, Steel fabricating, and oil experience. Broad, practical knowledge of financial, sales, production, legal and administration problems. P. O. Box 134, South Pasadena, Calif.

Mailing Lists

ROYALTY Lists. Oil Investor Lists Stockholders Lists. By states. Oil Industry Mailing List Co., Tulsa Loan Bldg., Tulsa Oklahoma.

Legal Blanks

SINCE 1908 Burkhart's legal forms—servicing Mid-Cont. oil fields, including Ill., La., Mo., Ind. & Ky. Free catalog & samples. Burkhart Ptg. & Sta. Co., 115 So. Cinn., Tulsa, Oklahoma.

Royalties

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma.

Brokers — Salesmen

Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Security and Exchange Commission. Inquiries invited.

B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

WILL BUY Producing West Texas and New Mexico Royalties. Oscar L. Grimes, Tulsa Loan Building, Tulsa, Oklahoma.

We buy and sell Royalties.
All offerings meet S.E.C. requirements.
CHESTER IMES
Tulsa Loan Bldg., Tulsa, Oklahoma.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

For Sale—Maps

TEXAS and NEW MEXICO
UP-TO-DATE OIL DEVELOPMENT MAPS
Zingery Oil Map Co., Fort Worth, Tex.

R. B. ROBINSON MAPS
Jackson, Miss. 3-Hart Bldg., Across Street from Heidelberg Hotel. Ownership maps All Over Mississippi.

Ranches—Farm Land

2 FARMS FOR SALE

Chickasaw County, Mississippi

Situated on pave Highway No. 15 in the section with fast-growing oil possibilities. Good timber on both farms.

546 ACRES—surrounded with heavy cattle fence and partially stocked with white-face cattle. Tenant houses in good condition.

850 ACRES—fronting one-half mile on Highway No. 15 — partially fenced. Excellent old Southern Home; tenant houses in good condition.

If interested, write

W. A. PATTERSON & SONS
Houlka, Mississippi

Incorporations

DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. G. Guyer, Inc., Wilmington, Delaware.

CHARTERS — Delaware best, quickest cheapest, more liberal. Free forms Colonial Charter Co Wilmington Del

Wanted

WANTED
FROM PRINCIPALS ONLY
Crude Oil—Diesel Oil—Bunker C
Aviation and Motor Gasoline for Export.
JOHN PAUL GIBSON
522 Fifth Avenue New York City.

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Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	$1.05	$1.80	$2.55	$3.30	7 Lines	$2.45	$4.20	$5.95	$7.70
4 Lines	1.40	2.40	3.40	4.40	8 Lines	8.80	4.80	6.80	8.80
5 Lines	1.75	3.00	4.25	5.50	9 Lines	3.15	5.40	7.65	9.90
6 Lines	2.10	3.60	5.10	6.60	10 Lines	3.50	6.00	8.50	11.00

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This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

CLASSIFIED ADVERTISING

For Sale—Equipment For Sale—Equipment For Sale—Equipment

REFINERY EQUIPMENT—UNITED REFINERY

COMPLETE 3,000 BBL. SKIMMING PLANT — RUSSELL, KANSAS

Foster-Wheeler Fractionating Column — 6'6"1Dx72' high. New Taylor Instruments throughout. Heat Exchangers, Hot Oil Pump Steam Engine Driven, Two Pipe Stills. 1 - 3" Tubes — 1 - 2½" Tubes.

WILL SELL ALL OR ANY PART

WIRE — PHONE — WRITE

SONKEN-GALAMBA SUPPLY COMPANY

W. C. Berry or H. J. Galamba,
Riverview at Second, Kansas City, Kansas

Robt. W. Duden,
2100 S. Union, Tulsa, Oklahoma

EMERGENCY NEED?

Freight Cars; any kind
Locomotives; all types
Relaying Rails
Freight Car Repair Parts
Perhaps *we* can supply your requirements, and *immediately?*
OTHER MACHINERY and EQUIPMENT, TOO!

IRON & STEEL PRODUCTS, INC.
13412 S. Brainard Ave., Chicago, Ill.
"Anything containing IRON or STEEL"

WE OFFER—STEEL DERRICKS
Fresh Painted—Excellent condition.
We still have a few left.
WERTZBERGER DERRICK CO.
P. O. Box 796
Tulsa, Oklahoma

REFINERY FOR SALE—complete 3000-bbl. refinery, cracking and skimming plant, practically new, dismantled and ready for shipping, at sacrifice price. Louisiana Iron and Supply Co., Phone LD 21, Longview, Texas.

FOR SALE—Two excellent used B-K Pipe threading machines, 1" to 4" and 4" to 10", complete set of dies, A.P.I. Specifications. Die Grinding Machine included. Berry Pipe & Supply Co., McBirney Bldg., Tulsa, Oklahoma.

FOR SALE
POWER HOUSE EQUIPMENT
3—550 HP 5 cylinder Nordbery Diesel Engines direct connected to 400 KVA Burke Generators. Must develop quick sale. If interested write, BETHLEHEM SUPPLY CORP., Box 2171, Tulsa, Okla.

FOR SALE: Complete 2-speed American steam rotary drilling rig with 4,000 feet of drill pipe. This rig can be purchased at a sacrificed price. Also G. E. drilling motor 15-35 h.p. complete with speed controls. Address Hightower Oil & Refining Corporation, Box 830, Brownwood, Texas.

TWO 240 H.P., 180 R.P.M., Type A, Busch-Sulzer Diesel engines, connected in tandem by a clutch, quill shaft and sheave. One engine has a belt driven 187 K.W., 220V., 2 phase A.C. generator, all in good operating condition, and can be used separately. STANARD-TILTON MILLING COMPANY—Dallas, Texas.

SULLIVAN P2 Steam Diamond Drill with approximately 2400 feet 2½" drill pipe and assortment of tools. Equipment in bad shape due to rust. Cost new about $13,000. For sale as is, Houston, Texas, $1,500.00. Humphreys Investment Co., 910 First Natl. Bank Bldg., Denver, Colo.

FOR SALE

10,000 Ft. of 6" Pipe
25,000 Ft. of 2"
10,000 Ft. of 2½"
20,000 Ft. of 4"
35,000 Ft. of 3"
10,000 Ft. of 8"

All threaded and collared line pipe strictly No. 1 which is located in Shreveport, Louisiana.

We have also 30,000 Ft. of 6" screw line pipe in Oklahoma and 10,000 Ft. of 8" in Missouri.

Wire, Write or Phone for Prices

Louisiana Iron & Supply Co.
Shreveport, Louisiana

FOR SALE WALSH and Weidner Gas Fired Water Tube Boiler 55 H.P., 500 pounds working pressure, excellent condition. J. R. Phillips, 1647 11th Place South, Birmingham, Alabama.

COMPRESSOR CYLINDERS
2—26" x 20" Ingersoll-Rand.
1—8", 12—17½" x 20" Bessemers.
2—6¼", 1—7¼", 1—12⅛",
3—18⅛" x 20" Clark.
Located at our Seminole, Okla. Branch.
All Reshopped and Ready to run.
NOLAN SALES CORPORATION
Tulsa, Okla. Seminole, Okla.

For Sale—Equipment

EQUIPMENT FOR SALE

2—Used Full Electric Diesel Powered Drilling Rigs—Complete with Drill Pipe.

1—Used Complete Steam Drilling Rig—Complete with Drill Pipe. A-1 Condition.

1—Complete Power End consisting of two 240-HP Fairbanks-Morse Engines with Sheldon-Burden Transmission for deep well drilling. Bargain.

For Inventory and Prices call or write
K. S. RICHARDS
P. O. Box 830 Fort Worth, Texas
Phone 2-1161

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio.

FOR SALE—$80,000.00 Rotary Rig complete. 10-in. Emsco Unit, 125-350 Boilers, etc. Practically new. Bargain. Roberts Bros., Box 1726, Houston, Texas.

Equipment Wanted

WANTED — Miniature cracking plant complete. State condition, capacity and price. Hot Springs Refining Co., Hot Springs, So. Dak.

Survey Service

REMEMBER EAST TEXAS
When all other methods fail, employ my divining or dowsing method. If oil exists this methods finds it. Faults, broken, treacherous areas accurately defined. Our Watson #2, first producer Wilmington, Calif. field, located by this method. More reliable than mechanical geophysics. Ask any unbiased oil authority. Many years' experience. A wise man investigates. George Miller, 1548 Post, Torrance, Calif.

For Sale—Geologic Surveys

FOR SALE—Geologic Surveys. Largest Stock of U. S. and State Geologic Surveys in country. Send list of wants to Cornwall's Book Store, 723 Eleventh Street, Northwest, Washington, D. C.

Rocky Mountain Runs

Production estimates for week ended December 9:

WYOMING

	Bbl.
Salt Creek	16,160
Big Muddy	1,170
Byron	3,750
Dallas Derby	570
Elk Basin	660
Frannie	2,780
Garland	2,540
Grass Creek	1,730
Hudson	240
LaBarge	1,030
Lance Creek	22,060
Lost Soldier	1,660
Medicine Bow	1,400
Oregon Basin	3,220
Osage	600
Quealy dome	500
Rock River	2,490
Wertz	3,610
Miscellaneous	920
Total Wyoming	67,090

MONTANA

Border	200
Cat Creek	490
Cut Bank	10,860
Dry Creek	230
Kevin-Sunburst	4,410
Pondera	850
Total Montana	17,040

COLORADO

Florence	120
Fort Collins and Wellington	290
Wilson Creek	460
Iles dome	1,930
Moffat	340
Orchard	20
Rangely	90
Tow Creek	140
Price	510
Total Colorado	3,900

NEW MEXICO

Cooper	3,960
Eaves	830
West Eunice	290
Eunice	21,140
Halfway	50
Hardy	3,750
Hobbs	10,540
Jal	550
Langlie	5,140
Loco Hills	780
Lynch	470
Lynn	920
Mattix	5,350
Monument	22,100
North Lynch	30
Penrose	5,290
Rhoades	110
Skaggs	90
Skelly	1,850
South Eunice	4,120
South Lovington	1,150
Vacuum	11,700
Artesia-Maljamar	11,770
Getty	100
Hogback	200
Rattlesnake	580
Table Mesa	90
Total New Mexico	112,950
Total Rocky Mountain region	200,980

Missouri Wildcats

(Continued from Page 109)

Daviess County

H. H. Francis' No. 1 Louis, SW NW SW Sec. 29-59-27w. S.D. 760 ft.; skidding rig ½ mile west.

Platte County

Missouri Valley G. & O. Co.'s No. 1 Jacks, SE cor. Sec. 7-51-33w. T.D. 935 ft.; P.B. 607 ft.; gas.

Geo. A. Vincent et al's No. 1 Dillingham, NE SW Sec. 16-53-34w. Drlg. 200 ft.

Schuyler County

T. E. Baldwin's No. 1-A Johnson, NW NE NE Sec. 21-65-15w. Drlg. 731 ft.

Rogers & Morrow's No. 1 Seamster, C N½ SW SE Sec. 6-64-13w. Drlg. 800 ft.

IOWA

Union County

Phillips Pet. Co.'s No. 1 Creston, C SE NE Sec. 31-71-30w. Drlg. 345 ft.

CRUDE-OIL PRICES IN REPRESENTATIVE FIELDS

Complete crude-price schedules are now being published in the first issue of each month. The last complete schedule was published in the December 7 issue. All changes in crude-oil-price schedules will be published completely in the first issues following the announcement of the changes. Following are representative crude-price schedules in barrels (42 gal.):

East Texas	$1.10
Conroe	1.27
Tepetate, Louisiana	1.03
Smackover, Arkansas, heavy	.73
Illinois basin	1.05
Pecos County, Texas	.78
Lance Creek, Wyoming	.77
Bradford, Pennsylvania	2.50

Gravity Schedules

Top prices include all gravities above grades designated, and low prices include all gravities below grades designated:

	Signal Hill, California	Oklahoma, Kansas	Gulf Coast Texas
14-14.9	$0.80	....	....
15-15.9	.80	....	....
16-16.9	.80	....	....
17-17.9	.80	....	....
18-18.9	.80	....	....
19-19.9	.82	....	$0.86
20-20.9	.85	$0.70	.88
21-21.9	.88	.72	.90
22-22.9	.92	.74	.92
23-23.9	.95	.76	.94
24-24.9	.99	.78	.96
25-25.9	1.03	.80	.98
26-26.9	1.06	.82	1.00
27-27.9	1.10	.84	1.02
28-28.9	1.14	.86	1.04
29-29.9	1.17	.88	1.06
30-30.9	1.21	.90	1.08
31-31.9	....	.92	1.10
32-32.9	....	.94	1.12
33-33.9	....	.96	1.14
34-34.9	....	.98	1.16
35-35.9	....	1.00	1.18
36-36.9	....	1.02	1.20
37-37.9	....	1.04	1.22
38-38.9	....	1.06	1.24
39-39.9	....	1.08	1.26
40-40.9	....	1.10	1.28

Crude-Oil Price Changes

Pennzoil Co.'s crude-price schedule in West Pennsylvania effective December 1 should read as follows: Group A, Cochran, Franklin, Hamilton, and Doolittle, $2.43; Group B, Titusville district, $2.42; Group C, Turkey and Tidioute, $2.41; Group D, Bear Creek and Porkey, $2.40; Group E, Eldenau, Bull Creek, Rough Run, Carbon, Dipner, Breden, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lack and Kinzua, $2.38.

Effective December 1, Quaker State Oil Refining Corp. posted $2.05 for Ohio oil of Pennsylvania Grade in Buckeye Pipe Line lines.

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